THE ARCHITECT & BUILDING NEWS

IN THIS ISSUE

- NUCLEAR PHYSICS RESEARCH LABORATORY UNIVERSITY OF LIVERPOOL
- CURRENT MARKET PRICES

FEBRUARY 7, 1952 · VOL. 201 · NO. 4338 · ONE SHILLING WEEKLY

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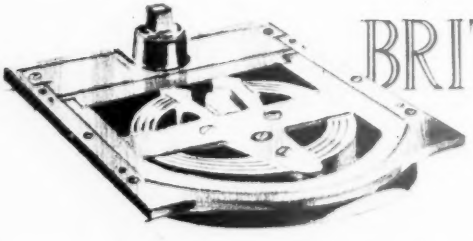
Architects: A. Marshall Mackenzie, & Son, F.F.R.I.B.A.

The  BRITANNIC

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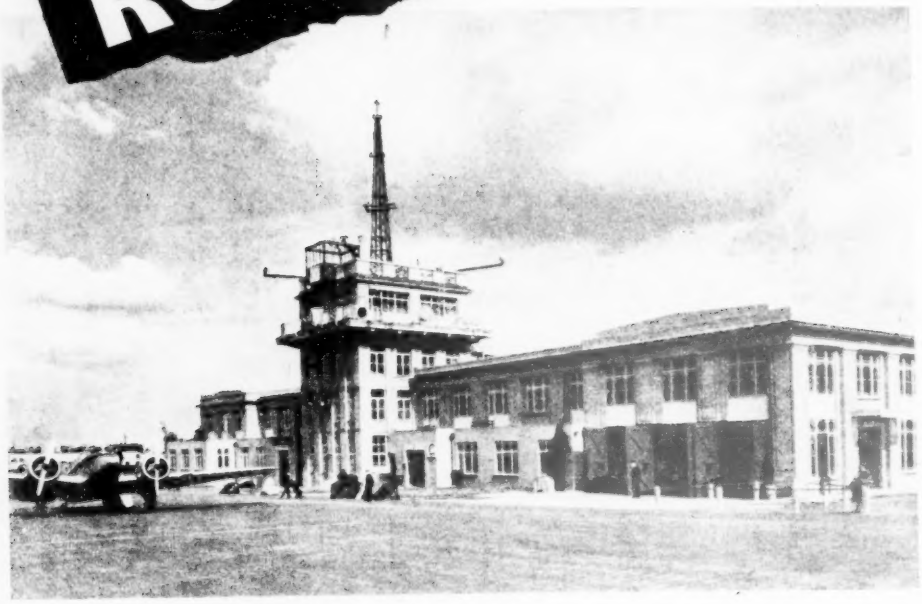

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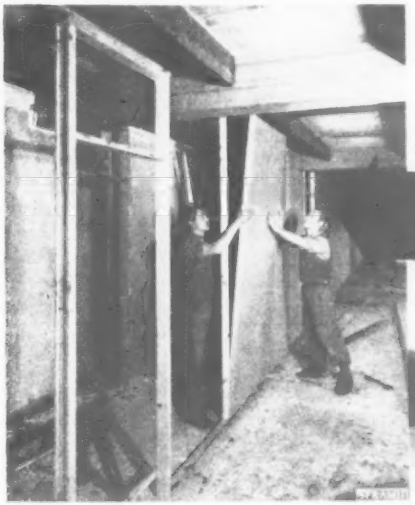

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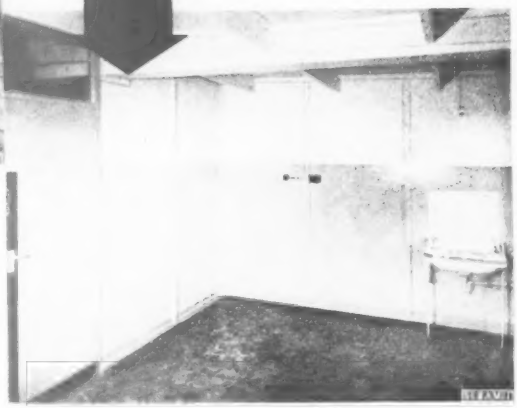

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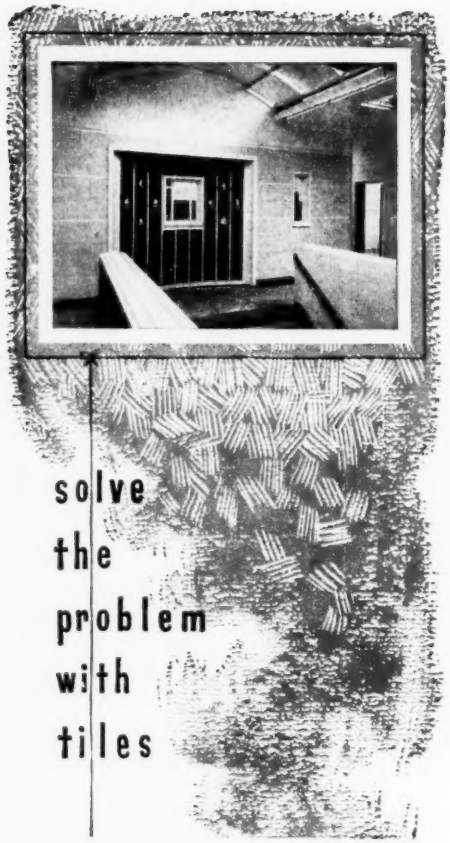

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of new generating plant, but
ELECTRICITY
is still in short supply

ON MARCH 31ST, 1951, British Electricity were serving over 13 million consumers of electricity — nearly 450,000 more than a year before and over 3 million more than in 1939. In the year to March 31st, 1951, sales of electricity exceeded 46,500 million units. Industrial consumption was 11·8% more than in the previous year, domestic 12% more and commercial 16·7% more. To meet the ever-increasing load, British Electricity installed more new generating plant last year than ever before. But it is not yet possible to bring supply level with demand *at peak hours*. These are, Mondays to Fridays, 8 to 12 noon and 4 to 5.30 p.m., and during hours announced by the B.B.C.

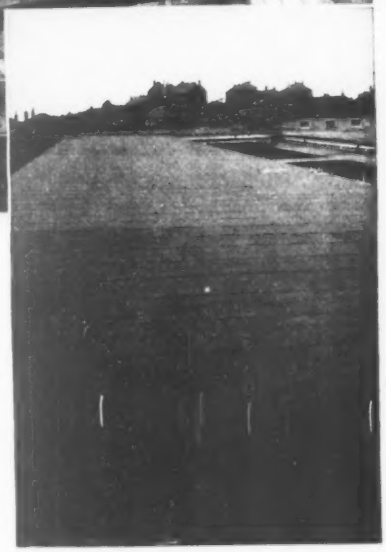
Still more power is needed for rearmament and for home and export production. It can be supplied, despite the plant shortage, by existing power stations — *if* . . . The " if " is if too many users do not switch on at the same time. When they do and " Peak " demands become too great, power cuts are unavoidable.

To help to stop power cuts, domestic users, shops, hotels and offices are urged to keep their electric fires switched off and to cut down their demand in every possible way during Peak Hours. This will mean some sacrifice but it will help keep the factories going.

Industries, too, in addition to their load-spreading arrangements, must use electricity with the utmost efficiency and economy. Above all there must be

NO WASTE

BRITISH ELECTRICITY



"THERMOLOK" is a modern aluminium decking of exceptional strength and rigidity, and is suitable for all types of roof structures.

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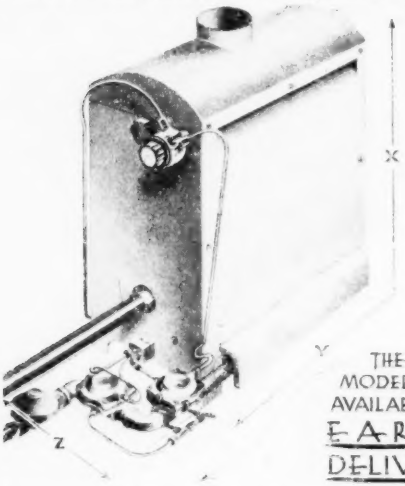

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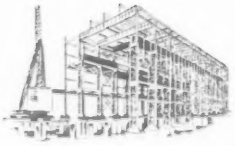

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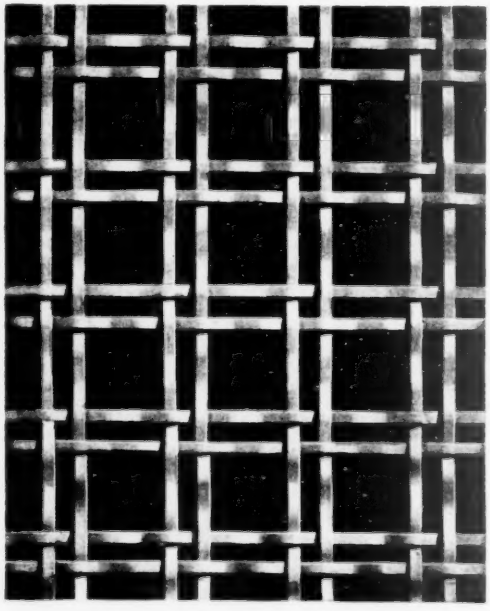

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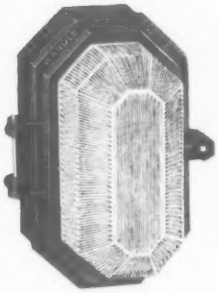

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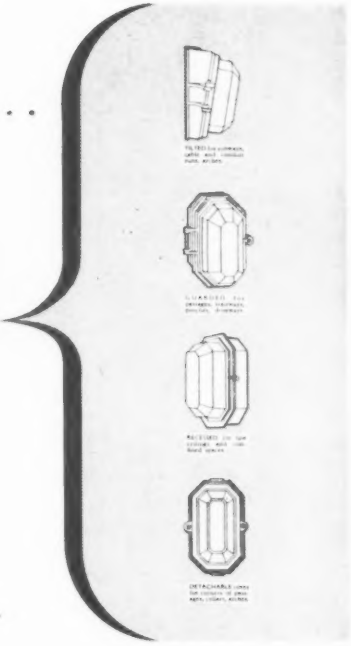

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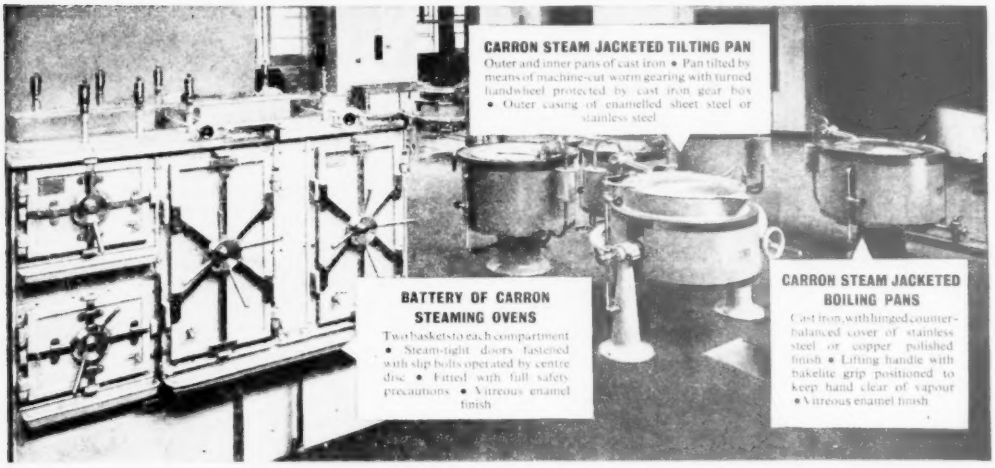
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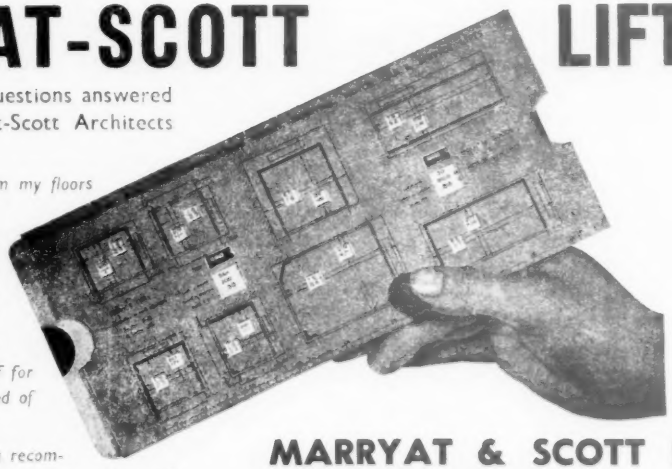

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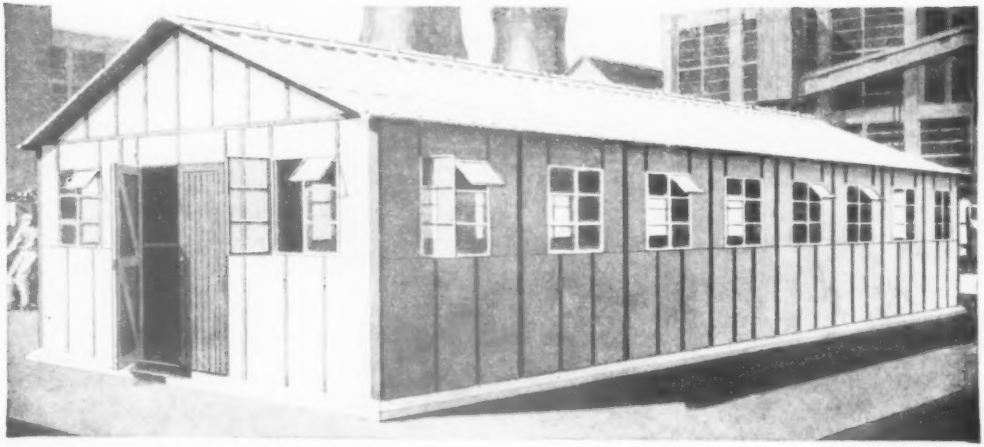

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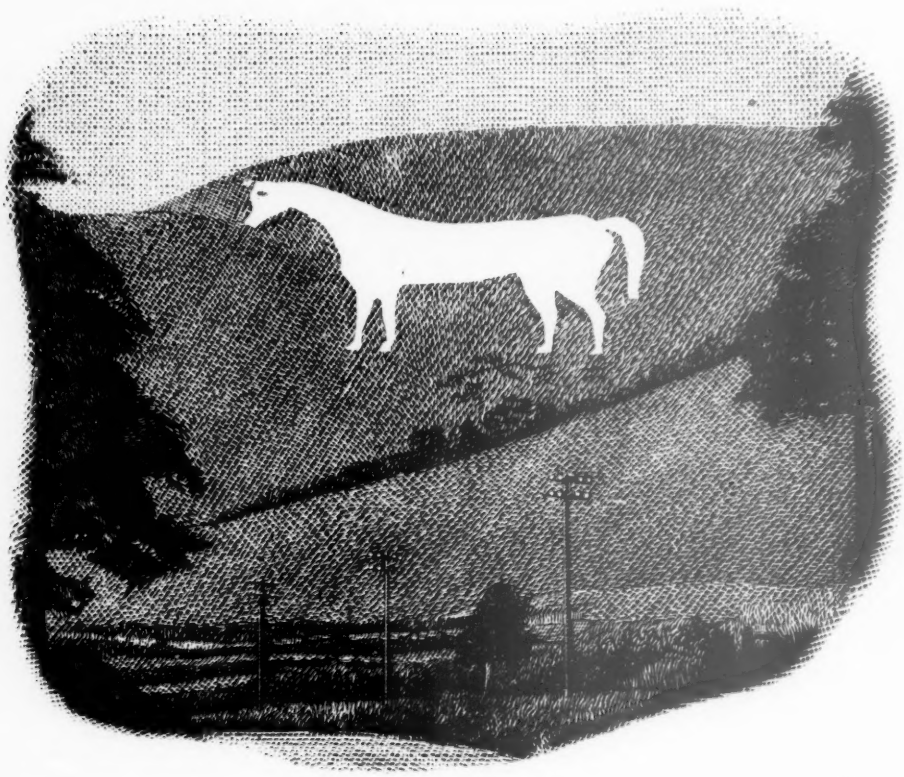

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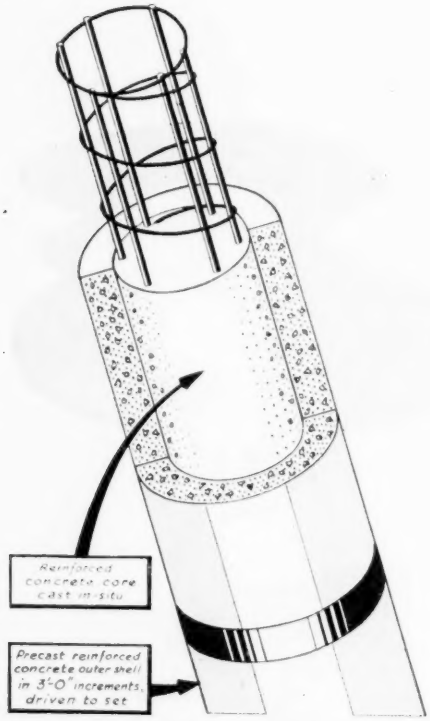

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Vol. 201. No. 4338

THE ARCHITECT & BUILDING NEWS

February 7, 1952

The "Architect and Building News" incorporates the "Architect," founded in 1869, and the "Building News," founded in 1854. The annual subscription, inland and overseas, is £2 15s. 0d. post paid; U.S.A. and Canada $9.00

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LIVING IN FLATS

THE Report by the Sub-Committee of the Central Housing Committee, under its Chairman, Mr. Henry Brooke, has been issued by and with the blessing of the Minister of Housing and Local Government.

The Report* opens with a statement that the terms of reference did not call for a judgment on the relative merits of houses and flats, but in order to show that there is no "ill-feeling" over a question which still has publicity and propaganda value, the Committee recommends that there should be as many houses and maisonettes (near the ground) *as possible*, even in areas of highest density. Apart altogether from any social distinctions such a policy may have, this recommendation means, of course, that the over-all planning problems of dense urban areas has still to be studied and understood. With densities of 200 or more persons to the acre, open ground-space is more important than most other amenities. It provides space for exercise, lessens site-noise and gives fuller penetration of air and sun—to get these things high flats are essential. To negative this proposition again by suggesting that two-storey houses or three-storey houses or maisonettes should be scattered about amongst the high flats is just pandering to the old "flats versus houses" arguments. (Incidentally a few diagrams and illustrations would have helped this report.)

The cost of laying-out roads and paths of an area with low blocks is, of course, higher than one with high blocks, in spite of the provision of children's playgrounds and other possible amenities in the latter. There are very few vital objections to high flats in central urban areas if they are well planned and equipped. The fact that top-floor flats, let under private developments (even to families with young children) fetch higher rentals than many of those on lower floors, points the argument in another way. The whole question becomes one of area or district planning and not just housing in the abstract and it seems that it is in this field that the Report is weak.

The difficulties of planning flats and the snags of living in them under present conditions of high building costs are numerous and it is valuable to have them summarized in this Report, even though some of the points are repetitions and some are pious hopes. There is greater exposure to noise, less privacy and the absence of private gardens and yards for those that dwell in flats; but most of these disadvantages can be "planned-out" and the Report gives, in spite of its biases about houses, some very useful recommendations and suggestions. In the main, the latter are made with eye on post-war restrictions and the tightness of money and land and would not unduly raise costs and, therefore, rents.

Another matter, this time of detail, again makes the reader of the Report a little doubtful if it is an "all-over" review of the planning of high-density urban dwellings. It suggests the use of three-storey houses for larger families and with this, if there is ground space, we would concur. But as a compromise, also where there is space, it is suggested that three-storey blocks with flats over maisonettes are better than three-storey flats. We have no particular liking for the latter but what are the advantages of the former? Alternatives are not suggested so we are still left in doubt on the question, apart altogether from the physical difficulties of planning flats economically either over or under maisonettes.

The Report asks—this we welcome and would stress as an urgent matter—for more research on the subjects of children's playgrounds, the elimination of noise in flats and the disposal of refuse. The last-mentioned subject is left very much "in the air" in this Report; in fact it goes very little further than a repetition of the descriptions of present methods

Living in Flats. H.M.S.O., 1s. 6d. net.

Block of flats in Milan *Architect: Paolo Chiolini*

already given in the Housing Manual or the relevant Post-war Building Study.

As a final comment: is there no way of getting rid of the word "estate" when referring to a housing development? In any of its real meanings or forms it is inapplicable to the subject, especially when the development is concerned with urban areas of high density. It is a survival of the pre-war jerry-builder's blurb and its adoption in officialese seems merely an avoidance, at all cost, of the healthy word "community," with all it might mean of mutual aid and decent living.

EVENTS AND COMMENTS

HOPE BAGENAL AT THE A.A.

I never miss a lecture by Mr. Hope Bagenal if I can help it. No matter what the subject, he is one of the most interesting and amusing of speakers and, what is more, he speaks such excellent English. His paper on Exposure Durability and Maintenance in Modern Design will appear in a future issue of the *A. & B.N.* It was full of choice phrases and beautifully polished sentences. The subject matter was no less interesting and enjoyable. I am terribly bad at remembering things people say and would dearly like to record some of them here but you must wait to read them in the report. On a subject such as this one would have expected that students would have attended in force, but no. The majority of the audience was respectably middle aged. A pity, for there was plenty of tilting at contemporary design which should have provided a

basis for heated discussion. Mr. Bagenal's contention that every piece of shell concrete should shelter under a good pitched roof drew little more than a fat laugh from the audience and no fireworks. Someone said, and I think it was well said, that if he had the gift of immortality he would confer it upon Mr. Hope Bagenal.

BAD PRECEDENT

There have been many raised eyebrows at the new guest editorship of the Architects' Journal. It is indeed a scoop for the A.J. to have four of the leading official architects to act as joint guest editors for 1952. But, sirs, and I address Messrs. Robert Matthew, Mr. Johnson Marshall, Mr. Gibson and Mr. Gardner-Medwin, you should have firmly refused. The positions you occupy place you outside and above connections with any one architectural journal.

It is true that Mr. Matthew and Mr. Johnson Marshall are already on the Honorary Architectural Advisory Committee of the Official Architect but that is rather different.

UNFAIR TO ELECTRICAL CONTRACTORS

Thirty Doncaster electrical contractors have protested, through their M.P., about the action of the Yorkshire Electricity Board in issuing free fuse wire to householders. The contractors object for two reasons, first that they sell fuse wire themselves at 4d a card, and secondly, that they regard it as the thin end of the wedge when the Board says to the householder, on the card, "if anything goes wrong send for us."

There seem to me to be two issues here. I think that the Board is being sensible in issuing free fuse wire with instructions on how to use it correctly. Many people are hopeless about such things and liable to use anything from hairpins to bent tobacco tins to replace blown fuses. A free issue of the correct wire all round is practical and sensible. That the Board should use this to advertise its contracting service in competition with private firms is to my mind wrong. Contracting by electrical undertakings is, of course, nothing new and it only became objectionable when the industry was nationalized.

PIT HEAD BATHS, ARE THEY APPRECIATED ?

The "coals in the bath" outlook of some people who have never been without a bathroom dies hard. The modern version of it is that only blue brick and olive green paint will stand up to the hooligan behaviour of children in schools. This attitude is still surprisingly widespread in spite of experience to the contrary in our modern schools. From this it is only a step to the often-heard remark that "the more you do for people the less they appreciate it." The following charming extract is taken from the letter of a sixty-year-old miner to someone who befriended him and his family during the depression.

Our Pit Baths are now open and I have commenced to use them. I did not use them during the first week as I had a severe cold. I have now started useing them and I can assure you it is wonderful having a Bath and leaving your dirty clothes at the Pit. They are a boon and a blessing to the majority of us Miners who have no Bath at home, we each have 2 lockers one to put your dirty clothes and the other your clean clothes, the Baths are very well heated and your Clothes are warm when you come to put them on. It seems strange to come home in clean clothes. I never expected doing it during my lifetime. I could not find words to tell you how grand it is. You go into a Cubicle and there is 3 changes of temperature and you only use one tap to get these changes, it is very simple to use. It is wonderful we get right on the Bus a few yards from the Baths. It is such a large place I only wish you could see it, there are 6,000 Lockers for Miners to put their clothes so you will understand how large the place is.

A.G.M. OF N.F.B.T.E.

The morning after the National Federation of Building Trades Employers Ball, I found them in surprisingly good form. Mr. Stephen Hudson, in his last appearance as President before handing over to Mr. Ian Robertson, filled one with admiration for his handling of the meeting. He had to answer some pretty outspoken questions from the floor, and I mean outspoken. The Platform came in for some sharp criticism for their handling of the Separatist Agreement, by which the operatives have been allowed to make a separate agreement with local authorities which puts the private enterprise employer in a weak position while labour is scarce.

The keynote of the meeting was that with the rise in wages and cost of building materials, builders are in danger of pricing themselves out of business.

They see the red light clearly and the intelligent ones are aware that only increased efficiency, supported by higher output from the operatives, will save them from this danger. I listened to every word with the greatest interest, and reflected that if Sir Richard Coppock had been present it would have been quite a party.

THE NOTIFICATION OF VACANCIES ORDER, 1952

This order which seeks to persuade people in search of jobs to take those offered as priority ones by the Employment Exchange does not apply, among other categories, to those seeking employment in a professional capacity. "A professional capacity" includes architects, surveyors, clerks of works and another of other non-manual occupations." Secretaries, other than company secretaries, and typists appear to be covered by the order. On and after February 25, you must engage such people from your local Employment Exchange or from a Scheduled Employment Agency. Furthermore you may only advertise if you point out that the vacancy must be filled through such an Exchange or Agency.

CHARLES CRICHTON

Readers will be sorry to hear that Charles Crichton, who has been editing The Industry section of the *A. & B.N.* since 1950 and who was previously on the staff before the war, has left whole time association with the paper for private practice. Many of his friends regard this courageous step as somewhat unwise in these days of difficulty but he is quite undaunted by their head-wagging. Crichton is doing what many of us would like to do, at any rate in theory. He is returning to the firm in North Wales from whose office he passed his final. He will continue to report for the *A. & B.N.* He will write from a charming country house designed by his old master Mr. North—the firm is North and Padmore—about 1912. When he has time he will play croquet or badminton, or both, on the lawn, and maintain an old motor car. His aim, and I envy him his pluck, is to escape from modernity to the solidity of country family life.

ABNER

NEWS OF THE WEEK

Nash's First Work

The headquarters by John Nash of the Pharmaceutical Society at the corner of Bloomsbury Square and Great Russell Street have been listed by the Minister of Local Government and Planning among buildings of special architectural or historic interest.

The building is believed to be John Nash's first London work; the use of stucco is earlier by about thirty years than the more famous masterpieces in that medium at Regent's Park, Carlton House Terrace, and in the old Regent Street. John Nash is supposed to have lived in one of the houses. The Pharmaceutical Society itself moved in a few months after it had been inaugurated by some hundred members in the Crown and Anchor Tavern in the Strand on April 15, 1841.

R.I.B.A. Distinction in Town Planning

The Council of the Royal Institute of British Architects have conferred the R.I.B.A. Distinction in Town Planning upon Mr. William Crabtree, A.R.I.B.A.

Mr. Crabtree studied Civic Design at Liverpool University under Professor Sir Patrick Abercrombie.

He was appointed co-ordinating architect for the development of the Central Area of Plymouth in 1945-51, and was appointed Consultant Architect in connection with the redevelopment of the Central Area by the County Borough of Southampton in 1945-50, much of which is now incorporated in the present Development Plan.

He has carried out large scale planning of high density flats and houses.

R.I.B.A. Library Group Meeting

The Library Group meeting on February 11 will be devoted to the work of George Edmund Street, R.A. (1824-81), and will be introduced by Mr. H. S. Goodhart-Rendel, Past President R.I.B.A.

Drawings on display will include those of Carlisle and Edinburgh Cathedrals, the Guards' Chapel and a number of churches, including St. John the Divine, Kennington, and All Saints, Middlesbrough. Several of Street's sketch books will also be on view.

The next meeting of the Library Group, which will take place on March 10, will be devoted to the indentifying of drawings possessed by the R.I.B.A. Library.

R.I.B.A. Final Examination November/December, 1951

The Final Examination was held in London, Birmingham, Leeds, Manchester, Newcastle, Edinburgh and Belfast from November 28 to December 7, 1951. Of the 449 candidates examined, 74 passed the whole examination; 46 passed subject to approval of Thesis; 47 passed Part I only: total 167. 228 candidates were relegated.

The R.I.B.A. Intermediate Design Prize and Victory Scholarship Competitions, 1952

The closing date for the submission of forms of application for the R.I.B.A. Intermediate Design Prize is the 20th March, 1952.

Under the arrangements for the competition only one *en loge* competition will be held. This will take place in London and at non-Metropolitan centres on Wednesday, 7th May, 1952.

The *en loge* competition for the Victory Scholarship will be held on the same day as that for the R.I.B.A. Intermediate Design Prize, i.e., Wednesday, 7th May, 1952. The closing date for the submission of forms of application is March 24, 1952.

Forms of application for admission to the competitions may be obtained at the R.I.B.A., 66, Portland Place, London, W.1.

Steel Allocation

The Minister of Supply has made an order (Iron and Steel Distribution) (Amendment No. 1 Order, 1952 (S.I. 1952, No. 172), price 4d from H.M.S.O.), authorizing a number of adjustments in the iron and steel distribution scheme which came into force on February 4. Wire rod reinforcement fabric mesh and wire reinforcement fabric mesh are added to the list of controlled forms of steel.

An "Amendment No. 1, February, 1952" to the "Notes for Consumers, January, 1952" is also being issued by H.M.S.O.

COMING EVENTS

Incorporated Institute of British Decorators.

February 12, at 6.30 p.m. Lecture by J. E. Boddington, M.A., The Spa Director, Bath, on "Eighteenth Century Bath," at the Building Centre, Store Street, W.1.

R.I.B.A.

February 12, at 6 p.m. Talk by F. J. Samuely, B.Sc., A.M.I.C.E., A.M.I.Struct.E., on "Space Frames and Stressed Skin Construction," at 66, Portland Place, W.1.

R.I.C.S.

February 11, at 5.30 p.m. General Meeting. Address by Bryan L. Richards, G.M., B.Sc., F.R.I.C.S., Chief Estates Officer, Crawley Development Corporation, on "Some Practical Aspects of New Town Development," at 12, Gt. George Street, S.W.1.

Student Planning Group.

February 14, at 6.30 p.m. Talk by Kenneth Booth, A.I.L.A. (L.C.C. Parks Department) and D. L. Anderson, Q.A.L.A.S., A.I.L.A. (Harlow Development Corporation), on "Landscape Architect in Continental Practice," at 28, King Street, W.C.2.

ANNOUNCEMENTS

Design Research Unit have been appointed Architects to Peter Robinson, Ltd., in connection with the reconversion of their Oxford Street Store. Designs have been approved and work is starting immediately on the Millinery Department. Other Departments will be dealt with in accordance with a long-term programme planned to disturb as little as possible the normal functioning of the store. The architects responsible for this work are Misha Black, O.B.E., F.S.I.A., M.Inst.R.A.; Alexander Gibson, A.R.I.B.A., A.A. Dipl., with Norman Wicheloe, A.R.I.B.A., as assistant.

Mr. A. J. Hale, L.R.I.B.A., has moved his office from 44, Broxholm Road, West Norwood, S.E.27, to 22, St. Stephen's House, Victoria Embankment, London, S.W.1. Telephone Whitehall 6542.

Messrs. A. H. Davis & Partner, Chartered Quantity Surveyors of Newburn Chambers, 107, New Bridge Street, Newcastle-on-Tyne, have opened a branch office at 32a, Silver Street, Durham, Tel. Durham 1623, and would be pleased to receive trade catalogues.

PARTNERSHIPS

Mr. J. E. B. Robson, F.R.I.C.S., L.R.I.B.A., announces that as from January 18, 1952, he is taking into partnership his chief assistant, Mr. E. H. Paul, A.R.I.B.A.

The practice will continue to be carried on at St. Nicolas House, West Mills, Newbury, under the style of Floyd, Robson & Paul.

Major J. H. R. Freeborn, M.A., F.R.I.B.A., F.R.I.C.S., and Mr. Keith Aitken, A.R.I.B.A., Dip. Arch., announce that they have entered into partnership as from January 25, 1952, and are carrying on practice from 30, Fitzroy Square, London, W.1, as before. Tel.: Eus. 2039 and 5632.

EXHIBITIONS

An Exhibition of Modern Swedish Architecture organized by The Swedish Society of Architects and The Swedish Institute will be held at The Building Centre from March 1st-29th, 9.30 a.m. to 5 p.m. (Saturdays 1 p.m.).

In connection with the Exhibition a Lecture will be given on March 6th at 6 p.m. at The Royal Institute of British Architects by Professor Paul Hedqvist, of Stockholm.

A small Exhibition illustrating "Houses 1952"—Second Appendix to The Housing Manual, 1949, will be held at The Building Centre from February 11th to 23rd, 9.30 a.m. to 5 p.m. (Saturdays 1 p.m.). Copies of "Houses 1952" will be on sale.

IN PARLIAMENT

Economic Stresses

In the second instalment of his proposals to ensure national solvency which the Chancellor of the Exchequer presented to Parliament when it reassembled on Jan. 29, after the long Christmas recess, there were included further restrictions on capital investment at home to relieve the competing claims of defence, export, and home needs on the engineering industries.

There was, he said, an acute shortage of building steel, which limited the number of jobs requiring steel which could be carried out during the coming year. Moreover, because of the importance of other demands and labour, the size of the building labour force could not be allowed to grow above its present level.

Provision must be made for some increase in building work for defence and the fuel and power industries. In addition, the Government intended to carry out their pledge on housing which used comparatively little steel. The amount of building which could be carried out this year should be considerably greater than last year, and probably greater than in 1950. A tight control would be kept on all types of building using steel which were not of fundamental importance to the national economy. Shops and offices would be particularly affected, and he was sorry to say that the programmes of rebuilding blitzed cities would have to be further delayed—(a decision which provoked some cries of "Shame"). At the same time, work on some industrial projects of high long-term value to the balance of payments would have to be slowed down or stopped altogether, and the start of a large number of similar new projects would have to be postponed. This was inevitable because factory buildings were large users of steel.

To all of this he added the further warning that if it was necessary in exceptional cases to reinforce steel allocation to the export industries, it might be necessary to prohibit the supply to the home market beyond a certain level.

Housing Repair

Mr. Macmillan, Minister of Housing and Local Government, stated in reply to questions in Jan. 29 that he was aware of the difficulties imposed on local authorities by the limitation on the amount of house repair work and improvements for which they were permitted licence, and he was considering the whole question in consultation with the Minister of Works. Mr. Macmillan also answered several anxious inquiries about future housing subsidy policy with the statement that the review of subsidies was in progress and he would inform the House of the new rates as soon as he could.

Brick Production

Mr. Richard Adams asked the Minister of Works if he would make a statement on his discussions with the industry regarding the expanded production of bricks during the current year. Mr. Eccles replied that he had been in conference with representatives of the brickmaking industry, and they had jointly examined the difficulties which stand in the way of increased production. He had confidence that the enterprize and initiative of this industry, with the support and help the Ministry would be able to give, would ensure a sufficient supply of bricks for the expanded housing programme and other essential needs. (Jan. 29).

Government Building

Sir William Darling asked the Minister of Works, what was the total value of licences granted for building of Government offices in London and the provinces, respectively, in the years 1945 to 1951, respectively; and if he would discontinue such building in the vulnerable London area. Mr. Eccles stated that in the period licences were issued to private developers to build offices to let to the Government to a value of approximately £11.2 millions in London and £1.6 millions in the provinces. In addition, offices had been or were being built by the Department at a cost for the same period of about £12.8 millions in London and about £8.4 millions in the provinces.

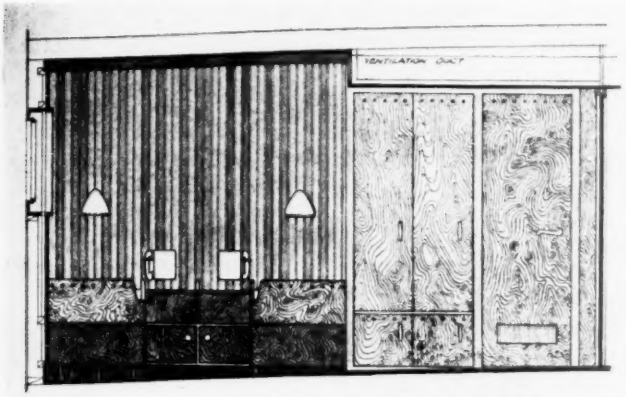
Whole House Heating

As a result of a mission from this country to North America during the winter of 1944-45, arrangements were made by the Ministry of Fuel and Power, in collaboration with certain local authorities and the Building Research Station, to build in this country a number of demonstration "open-plan" houses, in which hall, living space and dining space form a single room from which the staircase leads direct to the upper floor. The heating was to be either by hot-water radiators or by warm air from a gas- or coal-fired furnace.

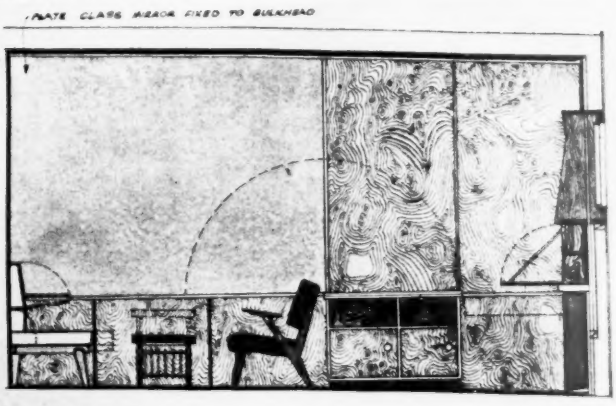
The houses were duly erected and exhaustive tests have been made to compare them with conventionally heated houses in respect of temperature level, fuel consumption and running costs. The test results are to be reported, and the applicability of whole-house heating in this country discussed, in a paper to The Institute of Fuel by F. C. Lant (Fuel Efficiency Branch, Ministry of Fuel and Power) and Dr. J. C. Weston (Building Research Station, D.S.I.R.). The paper will be presented at a meeting, which will be open to the public generally, to be held at The Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, on Tuesday, February 19, at 5.30 p.m.

The National Federation of Building Trades Employers Annual dinner was held at the Dorchester Hotel, London, on January 29. Over 700 members and guests including Mr. David Eccles were welcomed by the President, Mr. Stephen Hudson, and Mrs. Hudson. Picture shows (left to right) Mr. S. F. S. Hearder, Director of the N.F.B.T.E., Mrs. Hudson, Mr. C. Gordon Rowlands, Secretary of the N.F.B.T.E., Mrs. Hearder and Mr. Hudson.

SHIP'S CABIN COMPETITION RESULT



SECTION A-A



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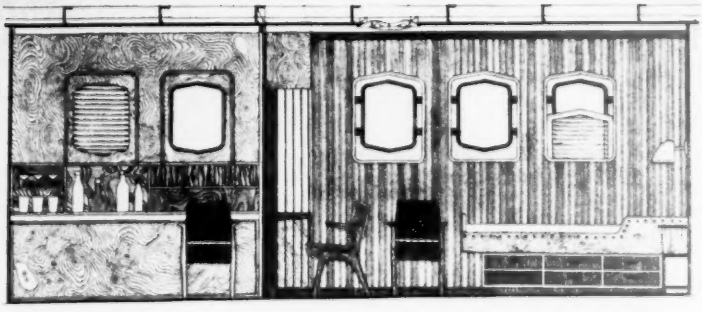


SECTION C-C

The winning design by Mr. Ian M. T. Samuel. Materials used are: monolithic plaster on the floor; bulkheads of 7-ply wood faced with hardwood veneers; ceiling finished in absorbent hard board. The window frames are bronze and are hinged and clamped. The sliding shutters in place of blinds are of bubinga in the main cabin and of grey sycamore in the sitting room. The skirtings are macassar ebony.

THE first prize of £250 in the ship's cabin design competition organized by the Council of Industrial Design Scottish Committee was awarded to Mr. Ian M. T. Samuel of Camp View, Newtongrange, Midlothian. Sixty-five designs were submitted.

Mr. Samuel is a 22-year old architectural student now in his fourth year at Edinburgh College of Art.

The judges found a wealth of new ideas to examine in the designs entered and the anonymous donor of the prize-money was so impressed that he put up a further £200 to be awarded at the judges' discretion.

A supplementary prize of £100 was therefore awarded to the entry from Professor R. D. Russell and Associates of the Royal College of Art, London.

High commendations, carrying an award of £25 each, were given by the judges to designs from Mr. Leslie Eckersall, 3, Briarbank Road, Ealing, London, W.13; Mr. Andrew Jackson, 2, Dalrymple Drive, East Kilbride, Lanarkshire, Mr. Thomas R. L. Robertson, 244, Rosslyn Street, Kirkcaldy, Fife, and the joint entry of Ake Leimalm and Claes V. Feder of Gothenburg, Sweden.

Competitors were asked to submit complete arrangements for a suite of cabins within the dimensions of 19 feet 2 inches by 13 feet 10 inches, providing a suite of double cabin, sitting room and bathroom, or a double cabin with private bath and a separate double cabin.

No restrictions were placed on the designer's use of materials other than the overall consideration that the suite must be suitable for use in a ship sailing any of the world's trade routes.

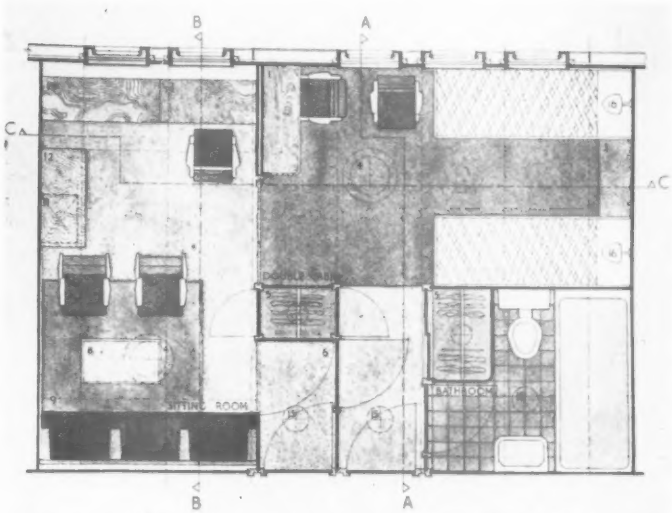
The judging panel included Mr. E. C. Leach, F.R.I.B.A., Decorative Architect to the Cunard White Star Line (chairman); Mr. J. R. M. Poole, A.R.I.B.A., A.M.T.P.I., Chief Architect to the Timber Development Association, and Mr. John Robson, M.B.E., B.Sc., M.I.N.A., M.I.Mar.E., of Alexander Stephen & Sons, Ltd., Linthouse, Glasgow.

The Judges' Report

"We were impressed by the high standard of most entries in the 65 submitted. They were thoughtfully planned, well-drawn and attractively presented, and many new ideas, which it is believed will be of value to shipbuilders and owners, were apparent.

"Unfortunately, quite a number of otherwise excellent designs were rendered impracticable by the failure of the designer to provide a separate entrance from the main alley-way to each room when booked as separate units.

"In judging the entries, among other aspects, account was taken of planning and layout; practicability of materials, cost and ease of construction; comfort and attraction for the passenger; facility in handling and cleaning, maintenance costs



PLAN SHOWING LAYOUT AS 'CABIN, SITTING-ROOM' SUITE

Winning plan by Mr. Ian Samuel.

and storage decorative merit and originality in fitments and utilization of space.

"The conditions of the Competition were necessarily restrictive by the very nature of the problem. This fact was reflected in the inability of competitors generally to combine successfully an ideal layout with a high degree of æsthetic appeal.

"After the most careful consideration, we have decided to award the prize to 'Gull,' whose design in our opinion offered the best overall solution.

"In view, however, of the very high standard reached by some of the other competitors in particular aspects of the problem, the donor very generously decided to give a supplementary prize which has been awarded to 'Nero,' whose scheme was considered to present the best solution from æsthetic considerations only, although in his solution the planning left much to be desired.

"We would also like to mention specially the entries by 'Reef,' 'Tosarell,' 'Zedi,' and 'Good Voyages.'

"We would recommend to the Council that in view of the excellent individual ideas in some of the schemes not awarded prizes, they might with advantage be brought to the notice of the shipping and shipbuilding industries."

CORRESPONDENCE

Moscow Permanent Building Exhibition

To the Editor of A. & B. N.

Sir,—In your issue of January 3, 1952, Mr. Rush asks certain questions about the Permanent Building Exhibition in Moscow. As I had the opportunity of visiting the Exposition last December perhaps I might be permitted some comments.

In the first place the exhibition is permanent and, at the same time, continually changing and kept up to date. Since my previous visit in August, 1949, more than three-quarters of the exhibits had been replaced by new ones. The park outside the exhibition with the large-scale equipment and demonstrations is naturally open only in the summer, though I was permitted to inspect a number of cranes partly covered with snow.

It is always dangerous to comment on details shown in photographs, especially in dealing with building in a country with different traditions. Brickwork in the Soviet Union is massive and usually stucco covered and bond arrangements are likely to be different. As to attachments of facings, they must be pretty secure. I have seen miles of stone-faced buildings up to 20 years old and there is still little evidence of loosening even under extreme frost conditions unknown in this country.

I am sure that all builders and architects in this country would appreciate a visit to the exposition and would demand, when they returned to Britain, that we had something of the kind ourselves.

Among some of the new methods I saw there was a great variety of mobile tower cranes suitable for buildings from ten storeys to two. These are used for prefabrication of multi-storeyed buildings using wall panels faced and plastered, combined floor and ceiling units, etc., so that occupation can begin immediately after erection.

Of materials the most striking was hydrophobic cement, lightly oil coated, which can be stored in the open and gives a much more workable concrete; sand lime bricks made without autoclaves and strengthened by exposure to carbon dioxide from the lime kilns; fused siliceous dolomite used for cast units and as mineral wool and, perhaps most impressive of all, large continuous drawn glass piping up to a foot in diameter, screw jointed, for water supplies and drainage, capable of holding 600ft pressure.

It is simply blind stupidity to-day to try to pretend that we have nothing to learn from the Soviet Union in building, especially in mechanization and the development of new materials. They are building fast and well and at a continually accelerating pace and that, unfortunately, is more than we can say.

I am, etc.,
J. D. BERNAL.

The Samfundshuset

To the Editor of A. & B. N.

Sir,—I see that in his reply to my letter regarding the Oslo Broadcasting House Mr. Norman Westwood has modified his former statement to "a fine and inspiring scheme." With this I would agree.

With regard to the Samfundshuset. I last saw this building in September, 1951, and it did not occur to me that it looked sorry for itself or was particularly shabby, though, no doubt, Mr. Westwood's criticism of the choice of certain materials is justified.

Incidentally, Mr. Bryan Westwood's article on the Samfundshuset appeared in your issue of December 26, 1947.

I am, etc.,
JOHN F. VERGETTE.

Sanitary Nomenclature

To the Editor of A. & B. N.

Sir,—Is it not time that some resistance was shown to the mealy-mouthed, misleading (and ineffective), miscalling of our sanitary provisions?

This started when the water-closet became delicately and inaccurately referred to as "the lavatory." I even had a draw-off tap, which I had specified for a lavatory, installed by an ultra-refined plumber in the W.C., where it wasn't wanted!

There is nothing foul in the words "water" or "closet"—isn't a Bishop "clerk of the closet" to the King? Anyway the odium (if any) is now transferred to the once-innocent lavatory!

Can't we call a spade a spade and save needless and futile confusion?

I am, etc.,
EDWIN GUNN.

H. W. WILLIAMS ARCHITECTURAL PRIZE WINNER

Church on a New Housing Estate

designed by: R. A. SHAW

THE winner of the H. W. Williams Architectural prize of £50, Mr. R. A. Shaw is a 27-year-old student at Liverpool University who designed the Liverpool Festival symbol.

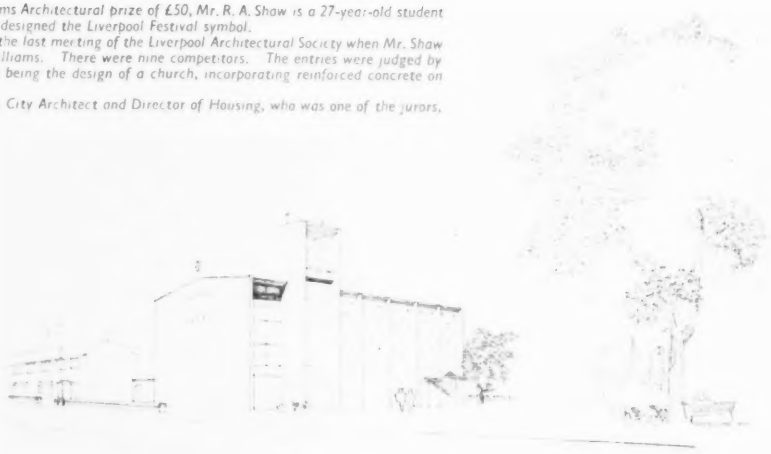
His success was announced at the last meeting of the Liverpool Architectural Society when Mr. Shaw received his cheque from Mr. Williams. There were nine competitors. The entries were judged by a panel of six jurors, the subject being the design of a church, incorporating reinforced concrete on a housing estate in the city.

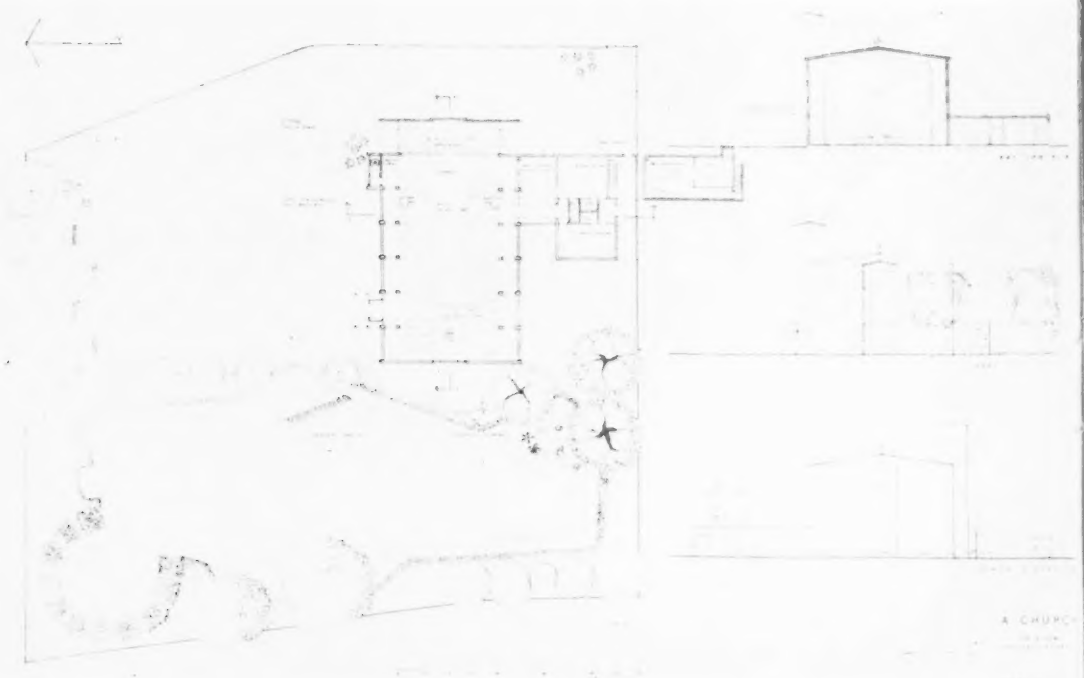
Dr. Ronald Bradbury, Liverpool City Architect and Director of Housing, who was one of the jurors, described the winning design as "a simple, straightforward church on modern lines, with a low squat bell tower. I congratulate Mr. Shaw on his workmanlike presentation which is clean, crisp and easily read."

Dr. Bradbury stressed the importance of simplicity in architectural design when he addressed the architects at the meeting.

"All large architectural buildings are simple," he said, and in that connection he mentioned the Liverpool Cathedral and St. George's Hall, the Town Hall and other buildings in the city.

"It is possible for anyone to indicate the appearance of any one of them in a few lines," he added.

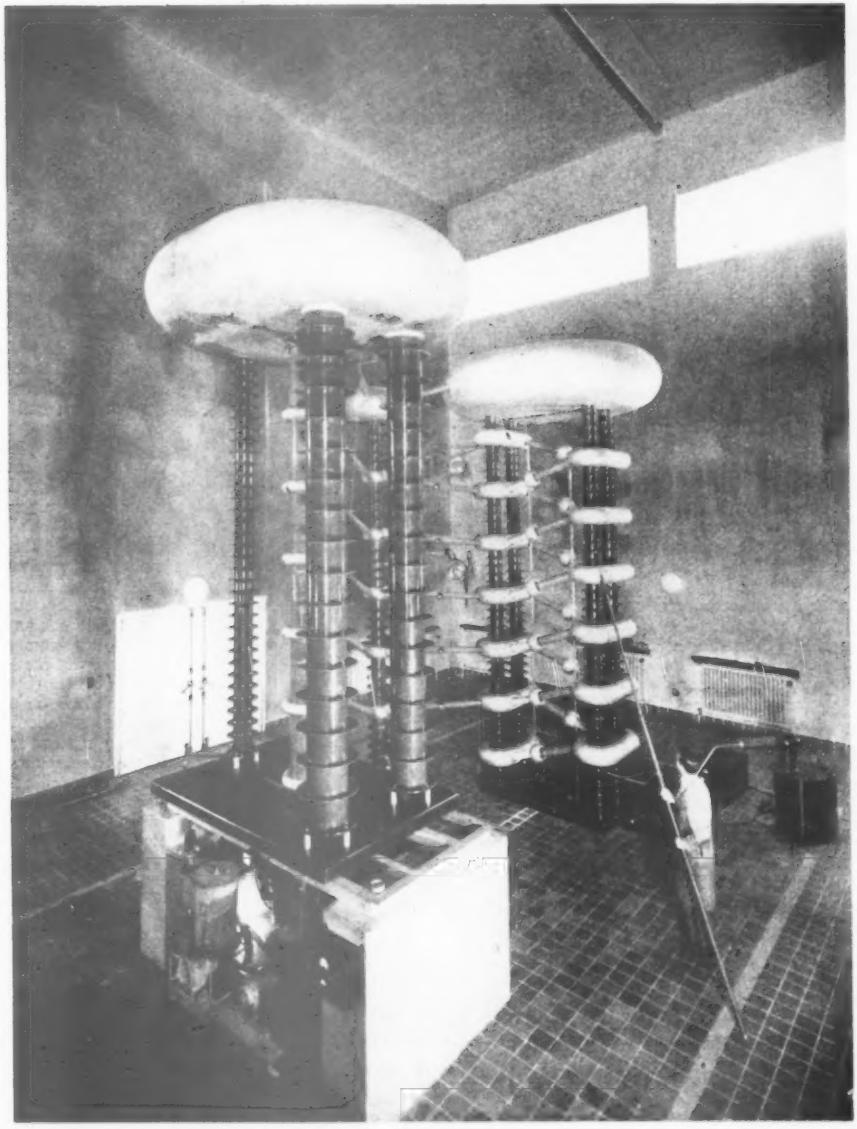




NUCLEAR PHYSICS RESEARCH LABORATORIES

LIVERPOOL UNIVERSITY

architects: WILLIAM HOLFORD
W. M. SHENNAN (Supervision of Contract)
assistant architects: K. W. Whitfield, G. C. Gardiner
Margaret Howell (37in Cyclotron), F. L. Evans



The H.T. section of the new laboratories showing the 1·2-million volt H.T. set

G.

Nuclear Physics Research Laboratories. The front elevation which faces south.

IN order to continue research in nuclear physics at Liverpool University at much higher energies, a new accelerator had been designed capable of producing particles of 400-million volt energies. There was a demand, therefore, for a suitable building with thick concrete shielding walls capable of absorbing radiations to house the new 156in cyclotron. Adequate laboratories and other facilities were required also for research workers. In addition it was considered desirable to re-house the existing 37in cyclotron on the new site and the 1.2 million-volt high tension set illustrated on the front page of this article had to be housed for the purpose of investigating nuclear phenomena at various energies up to the maximum output of the set.

The various buildings which are described in this article were designed by the architects in close collaboration with the laboratory staff under the direction of Professor H. W. B. Skinner, F.R.S. Mr. J. Moore, of the laboratory staff, was responsible for liaison between the University, the architects and Bovis, the general contractors. Meetings were held approximately every six weeks to discuss progress and the staging of the job. Many adjustments had to be made to the programme from time to time and modifications to the original conception of the buildings. Site meetings with sub-contractors took place at weekly intervals approximately.

In commenting on the completed buildings, the architects expressed these views: That panel heating would have been preferable to radiators which "got in the way" in the laboratories, and that the vermiculite plaster, although possessing useful qualities, had suffered damage by reason of its softness, in places where equipment had to be moved about.

Laboratory Block and H.T. Section

The building has a basement, ground floor, first floor and high tension section. Plans are illustrated on pages 168 and 169.

The framework of the building is of structural steel with floors and roofs of precast concrete beams. Walls are of cavity brickwork with specially selected facing bricks. Metal standard windows with armour plate glass have been fitted throughout except in the H.T. block where natural light comes through glass brick panels. As it was essential to protect equipment from the effects of dampness the basement was tanked in asphalte.

The H.T. block rises 21ft above the roof level of the laboratories. This part of the building also consists of a steel framework with brick walls except the wall adjoining the main laboratory block which is of concrete 12in thick using barytes aggregate to provide a wall of density sufficient to stop radiations from the H.T. set penetrating into the laboratories.

The main entrance into the H.T. room incorporates a concrete viewing chamber from which through a panel the engineer is able to watch the equipment for satisfactory running. He is able to read with a telescope the instruments remotely placed on top of the H.T. set. The viewing panel consists of 7 mm. super Protex glass (three sheets) as protection from X-rays. The doors to the chamber are lead lined and fitted with electrical interlocks which cut off power to the H.T. equipment should the doors be opened while the set is being operated.

Finishes: Walls and ceilings of the laboratory block are plastered with vermiculite plaster chosen for its high insulating properties and to minimize noise. Continuous metal channels have been fixed at various heights in the walls of the laboratories to take nut and bolt supports for blackboards, shelving and other equipment. The ground and first floor corridors have a false ceiling with removable panels which give easy access to the ventilation system and other services running in the duct above ceiling level.

Floor finishes are mainly Granwood Blocks and Marquetone. Rubber flooring is used in the basement room of the H.T. research laboratory.

The 156in Cyclotron Block

This building consists of a cyclotron room with two working levels—one at adjacent road level and the other 8ft below it. A subsidiary pit for erecting the magnet is located 15ft below road level. Adjoining the cyclotron room is a large ante-room for experimental work. Above these two sections are the auxiliary equipment room, a motor house for lifting a 30-ton door, and a ventilation plant room which is connected to the auxiliary equipment room by a covered way. A bridge, which carries in addition to the normal services all cables for the control of the main cyclotron, joins this building to the laboratory

block. Sections and exterior photos of this block are illustrated on page 171.

Finishes: Only the walls of the ante-room have been plastered in this building. The ceiling is of a dry panel construction. The ceiling of the cyclotron room has been treated with an acoustic finish to minimize noise. The concrete walls and ceilings throughout the remainder of the building are finished in paint.

Floors are tiled using heather brown quarries with the exception of the ante-room which is of "Stelcon" tiles to withstand the extremely heavy wear to which this floor will be subjected.

The external faces of the concrete walls have been brushed to expose the aggregate and present a textured surface finish.

The Sub-station

This building houses four transformers and H.T. and L.T. switchgear. Cables are fed to the auxiliary equipment room in the main cyclotron building through an underground tunnel 5ft 6in high × 4ft wide thence through a concrete duct built against the wall of the cyclotron building. A separate supply is also run to the 37in cyclotron laboratory.

The 37in Cyclotron Building

This building is a smaller version of the larger cyclotron building. It has its own control room whereas the big machine is controlled from the main laboratory block. Concrete walls 3ft thick give protection against radiation.

Finishes: All walls and ceilings in laboratories, etc., have been plastered, but the walls in the cyclotron room and A.E. room have been painted direct onto the concrete. Floors in the laboratories are of Granwood Block, heather brown quarries in the auxiliary equipment room, granolithic in the cyclotron chamber and rubber in the hot laboratory.

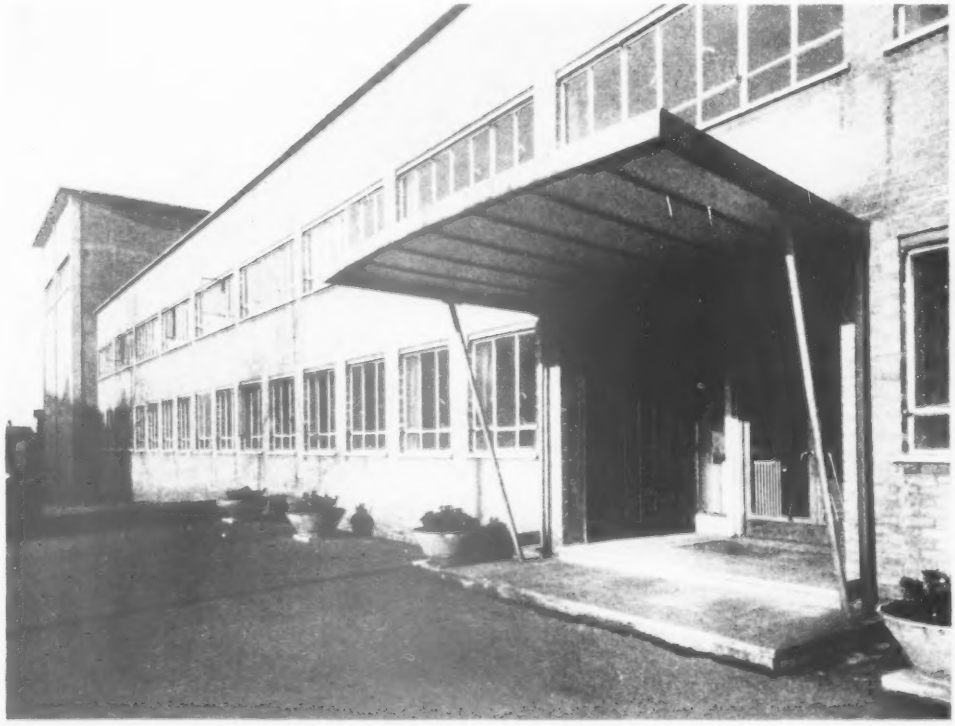
Services

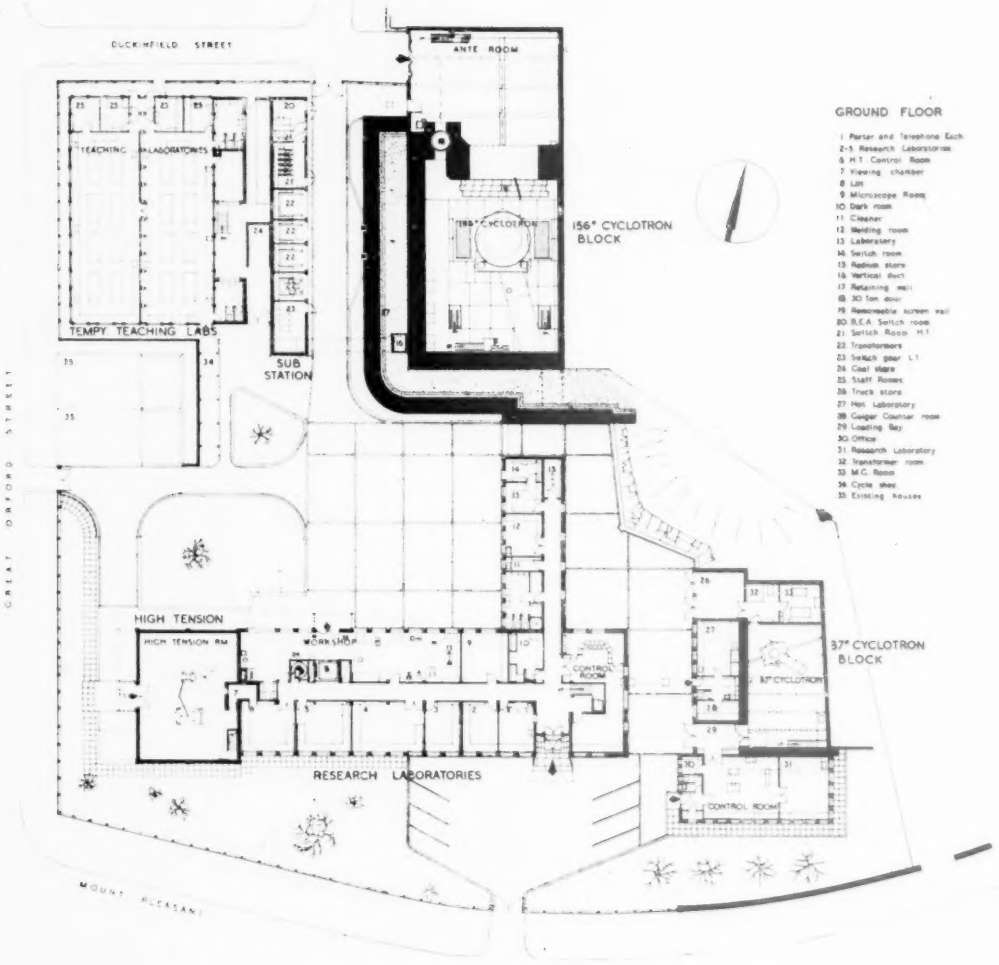
The Laboratory Building, H.T. section and the 156in cyclotron building are mechanically ventilated with separate plant installations. The temperature in the H.T. section has, for operational reasons, to be strictly controlled. All buildings except the 37in cyclotron are heated by hot water radiators from the boiler installation housed in the basement of the laboratory block. The 37in cyclotron building has panel heating embedded in the ceilings, hot water supply being from the main boiler. The laboratories are supplied with hot and cold water, gas, compressed air, power points, main clocks and electric impulse clocks controlled by a master clock. Lighting in the laboratories and offices is by cold cathode strip lights, supplemented in the large equipment rooms by tungsten flood lights.

Illumination throughout the 156in cyclotron building is by tungsten lighting, supplemented in the cyclotron chamber by powerful flood lights. In the 37in cyclotron building tungsten lighting has been used throughout.

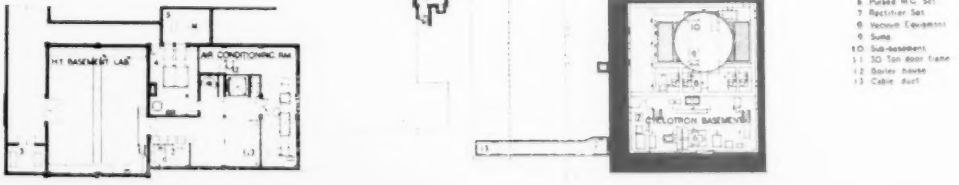
Services to each of the various rooms have been run from the corridors which means easy maintenance with minimum inconvenience to occupants of rooms. This will also simplify any extensions at a later stage.

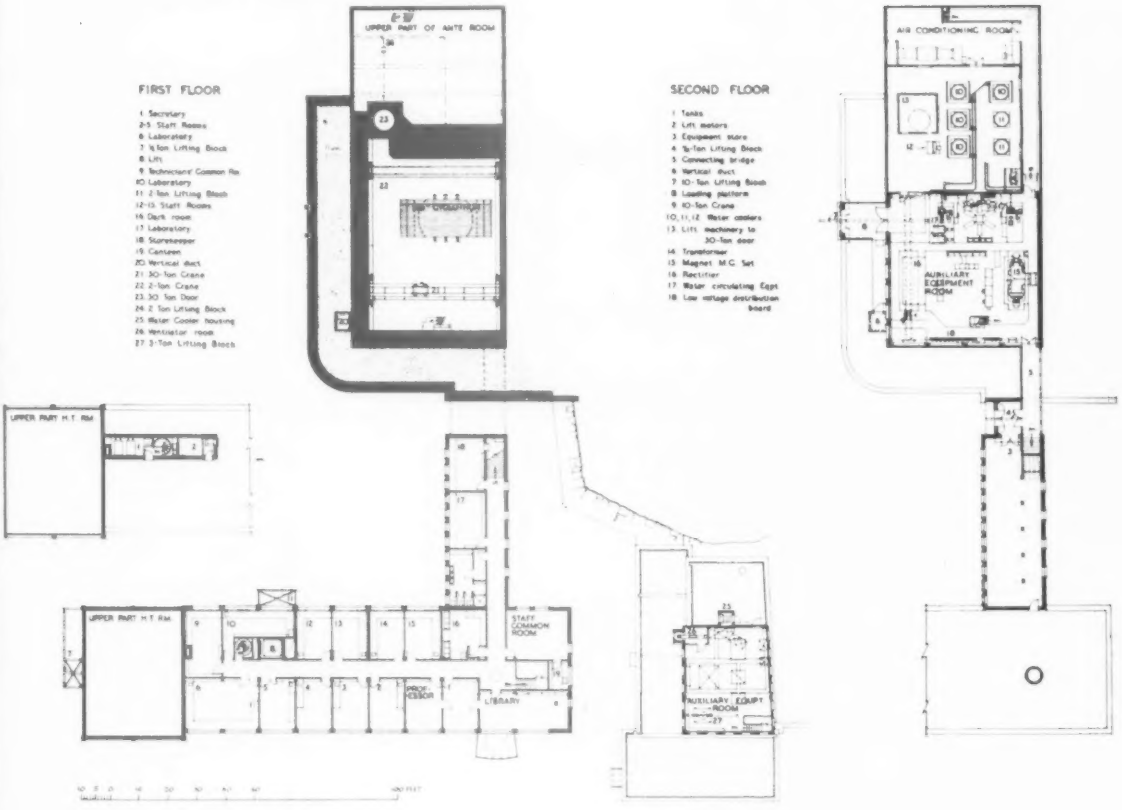
Entrance to the main Laboratories

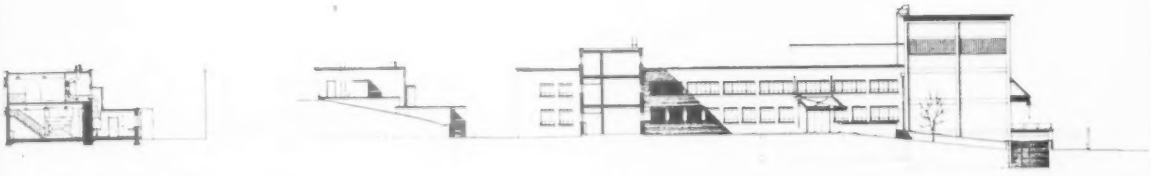




NUCLEAR PHYSICS RESEARCH LABORATORIES
LIVERPOOL UNIVERSITY

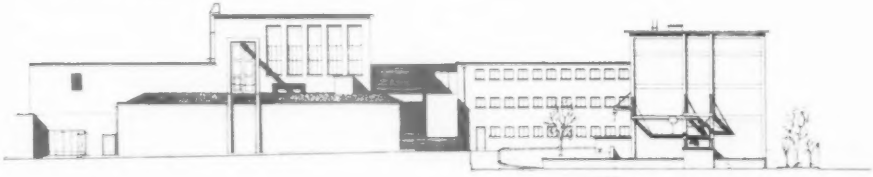




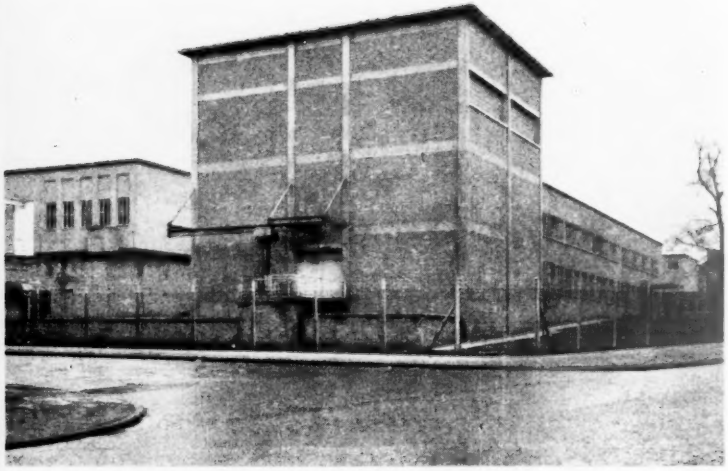


CROSS-SECTION, 37in CYCLOTRON AND NORTH ELEVATION

WEST ELEVATION

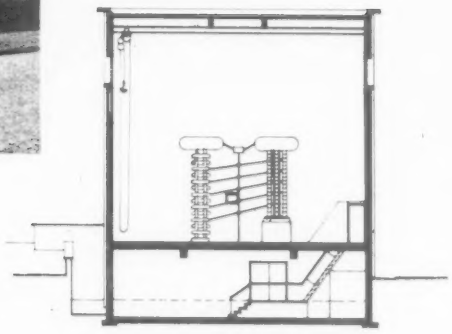


NUCLEAR PHYSICS



Above, the High Tension section and to the left the 156in cyclotron building.

Below, looking through from the Ante-room into the 156in cyclotron room. In the immediate foreground is the special doorway with the top of the 30-ton cylinder showing flush with the floor.



H.T. BUILDING: CROSS-SECTION

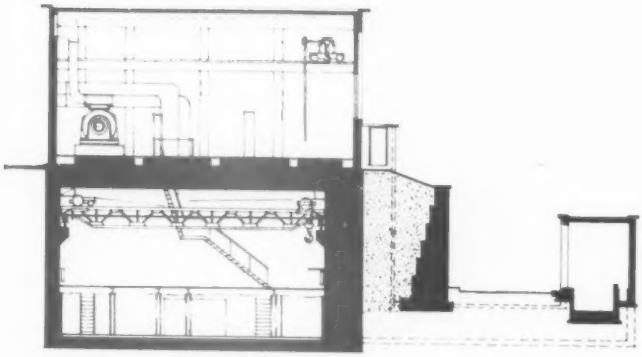
Excavation to a maximum depth of 30ft and removal of over 10,000 tons of sandstone rock took place in the construction of the 156in cyclotron block illustrated on the facing page. The basement is tanked with asphalte and the concrete oversite is 2ft thick. Mass concrete walls are 12ft thick between cyclotron room and ante-room, and 6ft thick elsewhere. On two sides the 6ft walls have an additional 10ft thick packing of pulverized sandstone supported by a brick retaining wall. The fourth side has been built into the solid rock. The roof over the cyclotron room is 5½ft thick of heavily reinforced concrete.

It was important that the concrete used be homogeneous and apertures in walls had to be avoided. Expansion joints in the roof and 6ft walls have been specially designed to overcome these requirements.

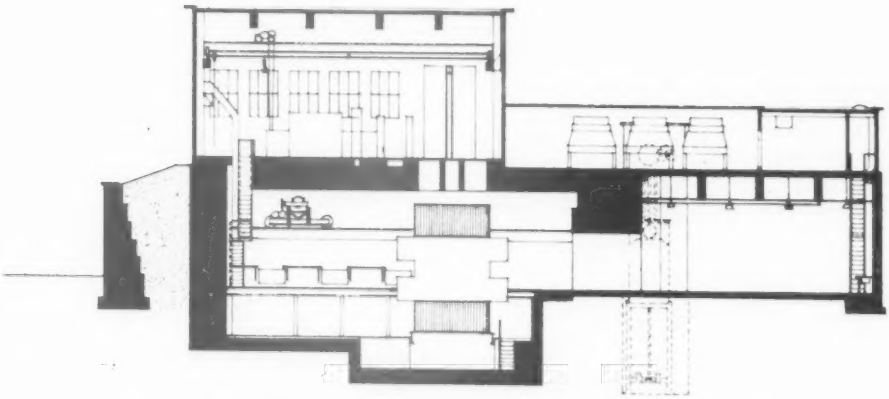
The floor of the lower working level in the cyclotron room was constructed in two stages to provide ducts for cables and other services. The cyclotron room itself has two working levels and a Magnet Pit in which the 156in cyclotron rests. A working platform at the same level as the ante-room is constructed of steel columns and beams supporting open grid steel flooring. This floor, which is designed to take a maximum load of 70 tons on any set of four supporting columns, can be easily dismantled in order to remove equipment from the lower floor level.

For the erection of the 1,700-ton magnet, a 30-ton overhead crane was installed supported by a continuous R.C. Beam forming an integral part of the concrete walls. A supplementary 2 ton capacity crane is provided for working between the front of the cyclotron and the 12ft ante-room wall.

RESEARCH
LABORATORIES



156in CYCLOTRON BLOCK: CROSS-SECTION



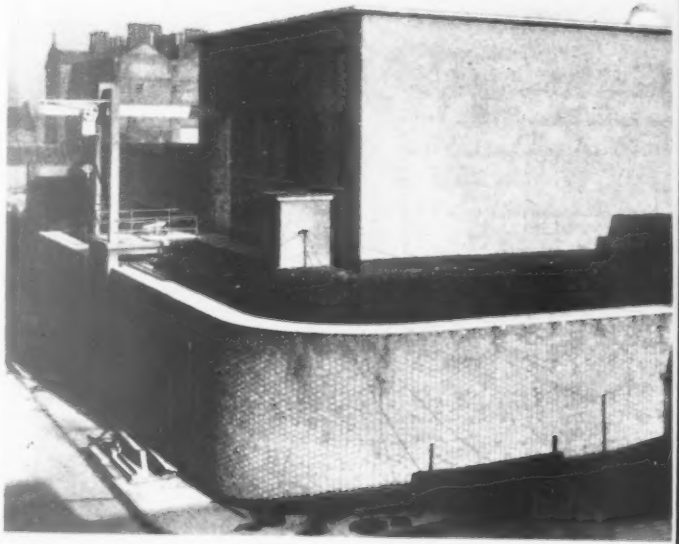
156in CYCLOTRON BLOCK: LONG-SECTION FACING WEST

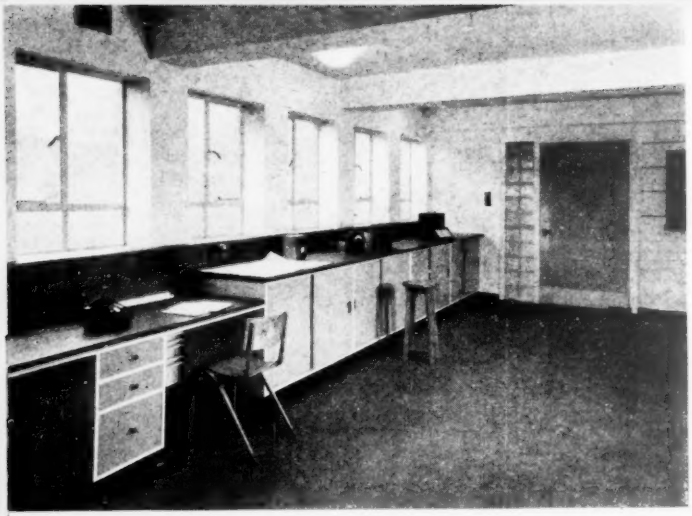
For the removal of plant an opening approx. 23ft wide and 12½ft high has been left in the thick concrete wall between cyclotron room and ante-room. Before commencing experimental work the cyclotron side of this opening is sealed with specially constructed concrete blocks each weighing 1½ tons.

The main aggregate used in the construction of these blocks was steel punchings, which were used to increase the density of the concrete to approximately 300lb ft cube. A 6ft thick screen wall of these blocks gives the same protection as the adjacent 12ft thick wall.

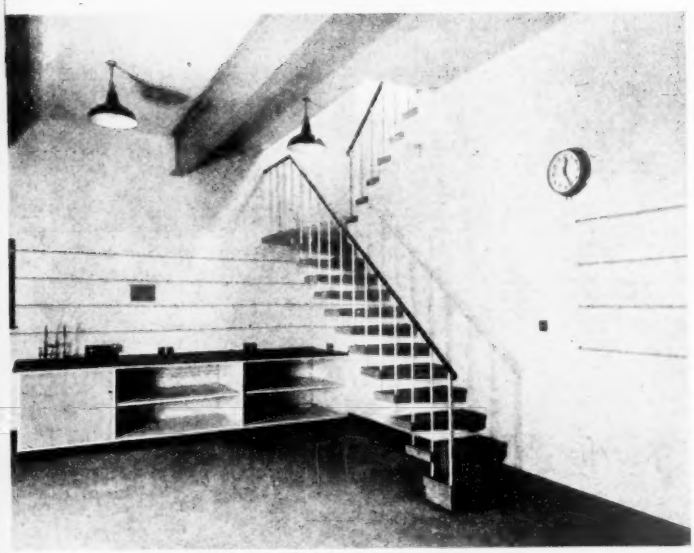
The blocks were made by first constructing an angle iron frame which was then surrounded by accurately made shuttering into which the steel-loaded concrete was poured. Lifting is by means of steel inserts. A stacatruc is used for transportation and hoisting blocks into position.

When the large opening is closed the cyclotron room is reached through a specially designed doorway, 4ft wide x 7ft high (see plans page 169). Built into this opening is a close-fitting 7ft diameter steel cylinder filled with sand and weighing about 30 tons. This is kept in position and sealed when the cyclotron is in use; when the cyclotron is not in use the cylinder is lowered into the floor to make a clear way through. This door can only be closed locally but can be opened from the control room some distance away.





1



2

architects:
WILLIAM HOLFORD
W. M. SHENNAN

quantity surveyors:
Furbur & Sons
Danskin & Purdie

GENERAL CONTRACTORS: BOVIS LTD.

sub-contractors

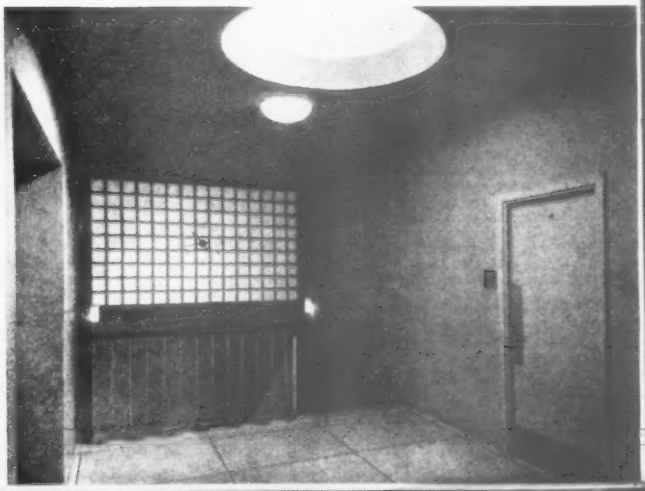
Accotile Flooring: R. W. Brooke & Co. *Accoustic Ceiling*: Gyproc Products. *Asphalte Floors to Teaching Lab.*: Durable Asphalte Co. Ltd. *Asphalte Roofing & Tanking Works to 156in. Bldg. Lab. Block*: Penmaenmawr & Trinidad Lake Asphalte Co. *Blinds*: J. Avery. *Chain Link Fencing*: Durafencing Ltd. *Compressed Air—Ventilation—Heating—Hot Water—Vacuum—Cold Water—Gas*: G. N. Haden & Sons Ltd. *Electric Lift*: Wm. Wadsworth & Sons Ltd. *Electric Light & Power*: Troughton & Young. *False Ceilings*: Beaumants Ltd. *Felt Roofing to 37in Bldg. & roof of 156in Bldg.*: William Briggs Ltd. *Floor Tiling*: John Stubbs. *Glazing*: Williams & Watson. *Granolithic Flooring*: Houghton & James. *Granwood Flooring*: Granwood Flooring Co. *Hollow Glass Blocks*: James Clark & Eaton. *Marquetone Flooring*: Mears Bros. *Plastering to Laboratory Block*: Metal-Mica. *Plastering to 37in Bldg.*: Pollock Bros. Ltd. *Rubber Flooring*: Ioco Ltd. *Shutter Gates*: Bolton Gate Co. *Spiral Staircase*: H. & C. Davis. *Sprayed Asbestos*: Newalls Insulation Co. Ltd. *Sprayed Pyrot*: Decorators Ltd. *Steel Flooring in Cyclotron Room*: Steelways Ltd. *Steel Office Furniture*: Rubery Owen Ltd. *Structural Steelwork*: Redpath Brown & Co. Ltd. *Switchboard Cabling—Communication Systems Ltd., Tanking to 37in Bldg.*: Faldo Ltd.

1. Laboratory bench and writing desk fittings in the control room of the 37in cyclotron building.

2. Stairs leading from the 37in cyclotron room to the auxiliary equipment room above. Note the metal channels for supporting equipment let into the walls. The walls are fair faced concrete finished with a wood float and painted.

3. Staircase landing in the laboratory block. Note the clock's mechanism inside a glass brick.

3



NUCLEAR PHYSICS
RESEARCH LABORATORIES
LIVERPOOL UNIVERSITY

Front Elevation

Four Staff Houses for Castle Howard Approved School

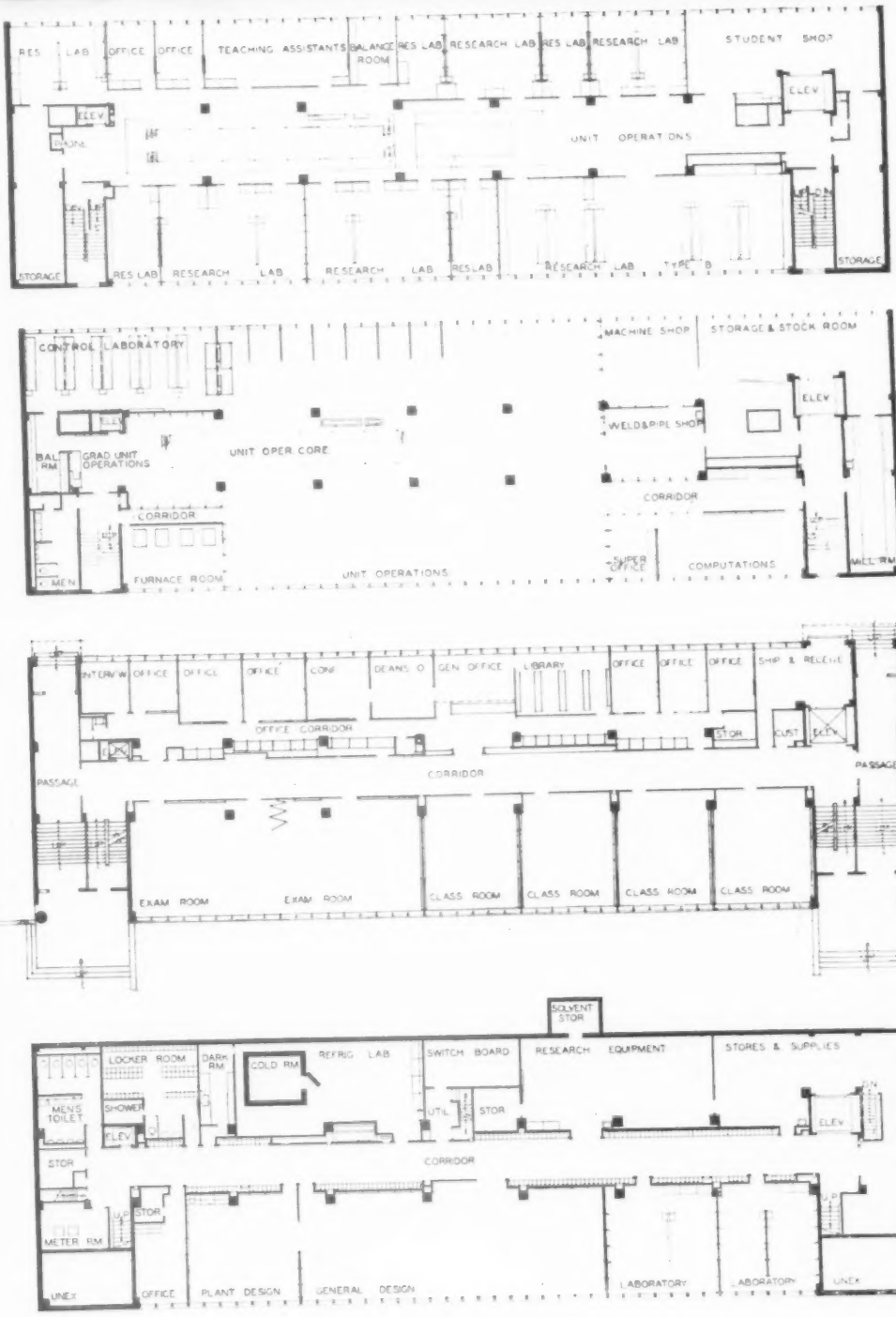
Front Entrances

THE four houses which are near Malton, Yorks, are the first instalment of a group of ten to be erected at the Castle Howard Approved School as Staff Accommodation. A group of garages will eventually be built near by to harmonize with the houses. They were designed in the department of the City Architect, Kingston upon Hull, by Andrew Rankine, A.R.I.B.A. and were built by Messrs. A. Lyons & Son, Leeds, at a total cost for the four houses, plus roads, site works and septic tanks, etc., for ten houses of £9,850. Externally the houses are faced with golden brown hand-made facing bricks supplied by Messrs. Wrays of York. Roof tiling is in light red hand-made and faced pantiles supplied by Messrs. Wheatley & Co. Ltd., Stoke-on-Trent. Windows are standard metal casements and the entrance porch metal work shown in the smaller picture was carried out by Messrs. F. Abbo & Co., Kingston upon Hull.

CHEMICAL ENGINEERING BUILDING UNIVERSITY OF MINNESOTA, U.S.A.

Front Elevation

ARCHITECTS: MAGNEY, TUSLER & SETTER & ROY CHILDS JONES



BASEMENT, GROUND, 2nd and 3rd FLOOR PLANS

CHEMICAL ENGINEERING BUILDING, UNIVERSITY OF MINNESOTA

ARCHITECTS: MAGNEY, TUSLER & SETTER

ADVISORY ARCHITECTS: ROY C. JONES & WINSTON A. CLOSE

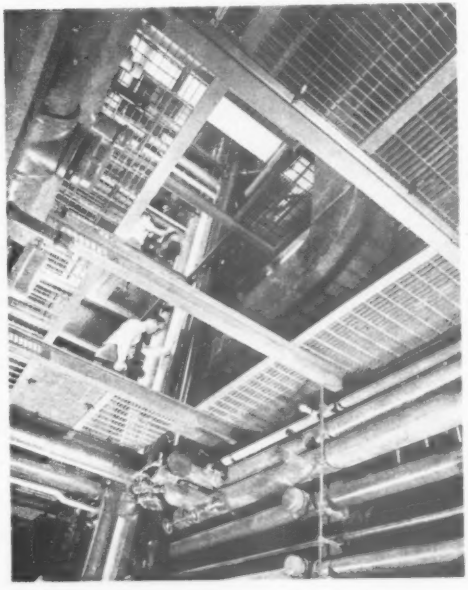
THIS building is designed entirely on the modular principle, with mullions between windows centred on module lines, 3 feet 8 inches centre to centre. The same distance serves as the module unit throughout the building. Interior partitions, overhead suspension hangers and inwall tension strips for apparatus suspension or installation are all spaced on modular lines.

All piping inside the building is in manifold systems with branch plug openings spaced every fourth module, permitting complete flexibility in laboratory area installations.

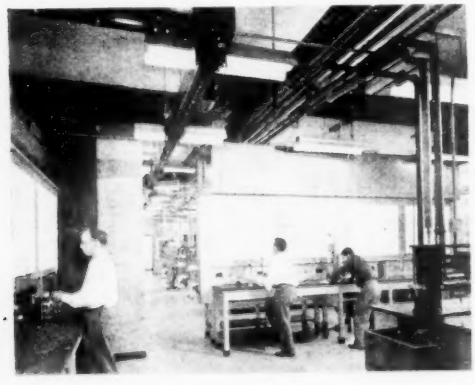
Heating is by continuous radiation strip and the entire structural weight of the building carried on concrete columns and steel mullions in the exterior walls between individual windows.

All interior partitions are load-free enabling them to be removed or rearranged: practical flexibility is the keynote of the entire building, which is arranged around a "unit operations core" extending from the third-floor unit operations laboratory up through the building to the top of the penthouse.

The entire structure can be quickly and economically converted to research work if an emergency should make this necessary.



The Chemical Engineering building is built around a "unit operations core", a utility core extending from the third-floor laboratories up to the top of the penthouse. Ducts and service pipes are colour-identified by a standard colour scheme throughout the building.



White-painted glass units containing indirect lighting fixtures between rows of tables in undergraduate laboratories provide needed light. Both natural ventilation and "blow-out" protection are supplied by the wide expanse of windows.

The rear (north) elevation clearly shows the alternating scheme of fixed and casement windows.

Window frames and spandrels are aluminium; mullions between windows are centered on module lines, 3ft 8in centre to centre. The same dimension serves as the module unit throughout the building.

CURRENT MARKET PRICES (LONDON)

(These prices apply to material purchased in the quantities named or otherwise as might be expected for a new building of medium size.) **January 1, 1952**

AGGREGATES AND SAND

1½ inch—all in—ballast	19/3	Yard cube delivered (in five yard loads or more)
¾ inch do. do.	20/–	
¾ inch screened shingle	19/9	
⅜ inch do. do.	20/–	
¼ inch granite chippings	55/–	
Sharp washed sand	20/–	
Pit sand	19/3	
Building sand	19/3	
Broken brick	17/6	
1½ inch shingle	19/–	
Cartage of muck	7/–	

CEMENTS, LIMES, PLASTERS, ETC.

London: Delivered centrally.

	Per ton
CEMENTS—Portland (6 ton loads)	99/9
Do. (but 1 ton to 5 tons 19 cwts.)	108/9
Do.—Rapid hardening (6 ton loads)	107/9
Do.—Do. (but in 1 ton to 5 tons 19 cwts.)	116/9
Do.—"Aquacrete" (but in 1 ton to 5 tons 19 cwts.)	141/3
Do.—"417" or Polar (1 ton to 5 tons 19 cwts.)	141/3
Do.—White (1 ton lots)	257/3
Keenes Cement—pink—coarse (2 ton lots)	180/3
Do.—white—coarse (do.)	185/6

LIME—Hydrated and Ground	121/6	(1 ton loads)	deliv'd.
including paper bags	119/6	(2/3 do.)	do.
	110/–	(4/5 do.)	do.
	109/–	(6 do.)	do.

PLASTER—	Price	unit	bags	
133/3 Sirapite, 2-ton coarse lots	138/–	per ton	included	delivered
141/3 do. finish ,,	146/–	do.	do.	do.
144/9 Hardwall ,,	141/6	do.	do.	do.
Plaster, pink coarse ,,	133/–	do.	do.	do.
Do. white do. ,,	140/6	do.	do.	do.
Lime and hair	78/–	per yard cube	—	do.
Plaster baseboard	2/5½	yard super (150 yds.)		do.

FIRECLAY—

Stourbridge, loose (1 ton lots)	142/9 Ton delivered
Fire cement	10/3 14 lbs.

BRICKS

BACKING BRICKS (In truck loads)—		
Flettons	105/3	per 1,000 delivered
Do. Keyed	107/3	do.
Do. bullnose	125/3	do.
Blue wirecuts	415/–	do.
White	150/–	do.
Southwater engineering (No. 1)	290/–	do.
Firebricks—2½ inch	67/6	per 100 delivered
Do. —3 inch	79/3	do.
STOCK BRICKS—		
Mild stocks	168/–	per 1,000 at Works
Second, do.	193/–	do.
First do.	203/–	do.
Add for delivery—approx.	40/–	per 1,000 in lorry loads.
FACINGS (ex truck or lorry)—		
Rustics	130/3	per 1,000 delivered
White	180/–	do.
Blue pressed, 2½in	460/–	do.
Do. bullnose	474/–	do.
Reds (Multi sand faced)	260/–	do.
White glazed stretchers	1230/–	do.
Do. headers	1215/–	do.
Do. bullnose	1530/–	do.
Do. double stretchers	1620/–	do.
Do. double headers	1485/–	do.
Breeze fixing bricks	20/3	per 100
Fire tiles and lumps	29/–	foot cube
Wall ties—8" × ⅞" × ⅛", black	66/3	per cwt.
Cement mortar (1 : 3) hand-made	80/–	yard cube

BRICKLAYERS' SUNDRIES—		9 × 3in	9 × 6in	9 × 9in	12 × 9in
AIR BRICKS					
Iron	each	1/9	2/11	4/6	5/10
Galvanized do.	do.	3/6	5/11	9/2	11/6
Terra Cotta	do.	1/2	2/4	5/9	9/10
Chimney pots, Terra		1ft	2ft	3ft	4ft
Cotta (11 to 25)	do.	6/1	10/8	24/1	41/8

PARTITIONS—

Per Yard super. Blocks keyed for plastering.

	Full load	60 Yds super	25 Yds super
2in Solid clinker blocks	2/11½	3/5	4/5
3in do.	4/0½	4/6	6/–
3in Hollow clinker blocks	4/7	5/1	6/–
4½in do.	6/3	6/3	8/7
2in Hollow clay blocks	4/1	5/2	5/8
3in do.	4/10	6/1	6/11
Half block extra on above	1/–	1/6	1/6
Smooth in lieu of keyed face, extra per side	2*d*	3*d*	3*d*

SINKS

Fireclay white glazed in and out—standard quality.

	24 × 18in	30 × 18in	30 × 20in
London pattern, no overflow, 6in deep	56/10	71/3	75/3
Belfast, plain edge, 10in deep	75/3	112/10	151/3

GAS FLUE BLOCKS—	Single Flues	Double Flues	
Backing blocks	5/5	10/–	per set of three
Straight do.	2/5	4/–	each
Cover do.	3/6	6/3	do.
Raking do. 45 deg.	5/2	8/4	do.
Do. do. 60 deg.	3/10	5/9	do.
Offset block	6/5	9/6	do.
Closer do.	2/5	4/–	do.
Do. flashing do.	2/–	3/1	do.
Straight flashing do.	2/–	3/1	do.
Terminal and cap	13/–	17/2	per set
Middle do.	12/9	16/5	do.
End do.	13/–	17/1	do.
Corbel block	8/8	16/7	each

DRAINAGE GOODS

GLAZED STONEWARE STANDARD LIST

	4in	6in	9in	
Pipes 2 feet lengths	1/8	2/6	4/6	each
Bends	2/6	3/9	6/9	do.
Single junctions	3/4	5/–	9/–	do.
Gullies (ordinary)	6/3	6/10½	11/3	do.
Ditto, reversible, trap	6/3	6/10½	—	do.
Ditto, ditto, hopper	—	4/7	9/2	do.
Black grid	—	1/3	2/6	do.
Interceptor (ordinary)	17/6	22/6	37/6	do.

Adjustment to Current Cost

	2 ton lots	Less than 2 ton lots	
		100 pieces or more	Under 100 pieces
"Best" pipes and fittings.			
Plusage	+57½%	+77½%	+87½%

The following to be added as a *separate and independent* plusage to the appropriate quantity in respect of British Standard pipes +10%, "Best" tested ditto. +37½%, and British Standard tested +47½%.

IRON DRAINAGE GOODS—

Under 2 ton lots.

Each	4in	6in
Cast iron pipes, 9 feet long	52/–	77/9
Do. 6 feet do.	38/2	60/10
Do. 4 feet do.	30/4	48/6
Do. 2 feet do.	18/8	29/2
Short bend	12/–	24/11
Junction	21/1	43/1

CURRENT MARKET PRICES *(Continued)*

DRAINAGE GOODS—*Continued*

GULLEY PARTS—	4in	6in
Traps, high level, invert	21/3	55/– each
Inlet, bellmouth pattern	14/3	22/6 do.
Do. with one vertical branch	21/3	36/– do.
Do. with two do.	46/6	81/– do.
Sealed cover, with felt washer	7/6	17/– do.

RAINWATER SHOES—	4in	6in
With vertical inlet and rebated top	25/–	66/– each
Extension piece, 6in high	15/6	15/6 do.
Flat loose coated grating	3/–	3/– do.
Loose solid coated cover	5/3	5/3 do.

MANHOLE CHANNELS, WHITE GLAZED— Each	4in	6in	9in
Straight, 2 feet long	12/1	16/6	28/7
Taper, ditto	19/10	19/10	29/9
Bends, main, half section	23/1	33/–	53/11
Ditto, branch, ditto	14/4	19/10	—
Ditto, ditto, three quarters, ditto	19/10	30/10	—
Junctions, single	18/11	33/–	—
Ditto, double	26/5	45/1	—

BROWN GLAZED CHANNELS—
Based on standard list plus 87½% (less than 100 pieces)

	4in	6in	9in
Half-round main channel (2ft long)	2/4	3/6	6/4
Extra for stop ends	2/4	3/6	6/4
Extra for outlets	3/–	3/–	3/–
Channel bends with splayed ends	7/1	10/7	—
Three-quarter section do.	9/5	14/1	—

MANHOLE COVERS—	Black
24 × 18in Light foot traffic	27/9 each
Do. Strong do.	44/6 do.
Do. Light car traffic	91/– do.
Do. Road traffic	136/– do.

SUNDRIES—	Galvanized
Manhole steps	8/– each
4in Mica valve fresh air inlets (L.C.C.)	18/9 do.
Plumber's hemp	7/6 per lb.
Gaskin, caulking	1/9½ do.
Canvas backed hair felt, 4in wide	9*d.* per ft run

ROOFING MATERIALS

WELSH SLATES (delivered)—

	Quantity		
Size in inches	2,000 to 4,999 per 1,000	100 to 499 per 100	1 to 99 per doz.
22 × 11	163/6 –	206 –	27/3
20 × 10	136/5 –	171/6	22/9
18 × 10	106/2 –	133/6	17/9
16 × 8	72/9 –	91/6	12/–
14 × 9	63/0 –	79/3	10/6
14 × 4½	29/7 –	37/3	5/–

TILES (Broseley and Staffordshire)—	5,000 lots per 1,000	per 100
10½" × 6½" Machine made	233 –	33/–
Do., hand made, sand faced	269 –	38/3
Hips, valleys and angles	27/9 per dozen	
	Per 1,000	Per 100
Plain concrete tiles	160/9	19/6

Sheeting asbestos corrugated, 6in pitch (23 to 85 super yard lots)	5/3½ yard super
4in × 16 gauge, drive screws (galvanized)	15/– gross
7½in × ⅜ hook bolts and nuts (do.)	47/– do.
Washers, round, flat, galvanized	3/9 do.
Do. do. bituminous	2/– do.

ASBESTOS RAINWATER PIPES AND FITTINGS—

Each.	2½in	3in	4in	6in
Pipes, 6ft lengths	5/10	6/11	9/6	19/7
Ditto, 4ft ditto	4/10	5/7	7/10	16/3
Shoes	1/10	2/3	3/4	7/10
Branches	3/4	4/–	5/6	13/7
Bends	2/2	2/8	3/10	8/7
Swannecks, 6in projection	2/11	3/2	4/8	10/1
Pipe clips	1/9	1/9	2/2	2/8

ASBESTOS HALF ROUND GUTTERS AND FITTINGS—

Each	4in	5in	6in	8in
Gutters, 6ft lengths	4/5	5/3	7/6	9/3
Ditto, 3ft and 4ft ditto	3/1	4/–	5/11	7/–
Angles and nozzles	1/10	2/4	3/4	3/10
Stop ends	7*d.*	9*d.*	11*d.*	1/3
Drop ends	1/7	1/10	2/4	2/11
Clips	10*d.*	1/1	1/6	1/9

STONE

PER FOOT CUBE in random blocks not exceeding 20ft average in each.

BATH STONE F.O.R. SOUTH LAMBETH—
Monks Park 6/2. St. Aldhelm 7/2

STONE F.O.R. NINE ELMS—
Portland brown Whitbed 6/11. Beer 9/1.
Over 20ft average cube blocks extra cost.

TIMBER

Softwood—sawn—random lengths.

	Per Standard.	Per cubic foot.
Carcassing quality	£105	13/4
Joinery quality	£140 and up	17/–

Plain edged unsorted flooring, per square

⅞in	1in	1¼in	1½in
90/–	115/–	146/–	173/–

½in insulating wall board (600 yards) 3/11 yard super.
Larger quantities cost less, and smaller quantities more.

SUNDRIES—

Felt, roofing and inodorous (best)	2/10½ yard super
Do., inodorous, 2nd quality and sarking	2/2 do.
Do., sheathing, black	1/7 do.

Glue 2/– per lb. Glass paper 4½– per quire.
Nails: brads (2½") 58/– cwt. Cut clasps (2½") 60/3 per cwt.
Panel pins 1/– per lb. Sash line, cotton (No. 8) 177/3 per gross.

Wall boards. Up to 9 sheets

Insulating, ½"	5½*d.* per sq ft
Hardboard: ⅛" 7½*d.*; and ⅜" 10½*d.* per sq ft	
Slag wool	3/6 foot cube

Wood screws: 1½" long—No. 8 size—per gross: Steel 2/10. Japanned round head 3/8. Brass 9/11. Brass round head 12/10.

HARDWOOD—

Prime	Per ft super ⅞in	Per ft super 1in	Per ft cube
African mahogany	2/4	2/6	28/–
Honduras ditto	3/9	4/–	45/–
Portuguese Guinea ditto	3/1	3/3	36/–
African walnut	2/5	2/7	29/–
Australian ditto	5/6	5/10	65/–
English oak	4/3	4/6	50/–
Yugoslavian ditto	3/4	3/7	40/–
Burma and Siam Teak	4/8	5/–	56/–

QUALITY, STANDARD SOFTWOOD DOORS.

1¾in, 4 Panels, horizontal, moulded both sides, in quantities of from 12 to 49.

2′ 9″ × 6′ 6″ at 58/6 each.	2in do., but top panel open, with beads.	
2′ 6″ × 6′ 6″ at 55/3 each.	2′ 9″ × 6′ 6″ at 71/– each	2ins 3 panel, do. as last.
2′ 3″ × 6′ 6″ at 52/9 each.	2′ 6″ × 6′ 6″ at 67/3 each	2′ 9″ × 6′ 6″ at 65/9 each — 2ins, 2 panel ditto as last.
2′ 0″ × 6′ 6″ at 50/3 each		2′ 6″ × 6′ 6″ at 63/3 each — 2′ 9″ × 6′ 6″ at 60/– each
		2′ 6″ × 6′ 6″ at 57/– each

IRONMONGERY

	2in	3in	4in	5in	6in
Cast iron Butts, per pair	11½*d.*	1/6	2/4½	4/4½	6/3
Hinges, spring, single action regulating, japanned, each	—	6/9	9/–	12/–	15/–
Do. but double action spring only, each	—	12/–	15/6	22/9	27/9
Do. blank only, each	—	5/6	10/6	12/9	16/6

CURRENT MARKET PRICES *(Continued)*

IRONMONGERY—*Continued*

	12in	18in	24in	30in	36in
Tee hinges (japanned), per pair	1 9	3 3	—	—	—
Do. but stronger, per pair	2 4	4 5	6 11	—	—
Hook and Ride hinges, per pair	—	—	11 9	14 5	22 –

BOLTS—each—	3in	4in	6in	8in	10in	12in
Cabinet, barrel, straight or necked	1 5	1 8	2 2	—	—	—
Square spring, with brass knob	1 4½	1 8	2/2	—	—	—
Tower bolts	—	1 4	1 10	2 6	3 1	3 8
Barrel bolts	—	2 7	3 10	5 1	6 5	7 10
Add to Tower or Barrel bolts if necked	—	4*d*	5*d*	6*d*	6*d*	6*d*

LOCKS—each—			
Rim lock, 2 lever, wrot case brass bolt and bushing	11 5	Brass furniture or Bakelite do.	4 2
		Bakelite do.	3 1
		Bakelite finger plates	2 3
Mortice lock, 2 lever, bushed	14 4	Brass furniture or Bakelite do.	7 –
			3 8
Cylinder latches, japanned case			15 6
Brass sash fastener		each	4 –
Casement fasteners (malleable)		do.	1 6
Do. stays (do.)		do.	2 –
Axle pulleys (brass face, iron wheel)		each	2 1
Do. as last, but with brass wheel, 1¼in		each	3 5
Sash line, No. 8 Anchor yellow label		per yard	1 –

METAL GOODS

Basis—Rolled steel joists, all sections from 5" × 4½" to 16" × 6" inclusive (except 9" × 7", 10" × 8", 12" × 8" and 14" × 8") (over one ton)	£34 – –	per ton
Extras—9" × 7" section	5 –	do.
4" × 4", 5" × 3", 10" × 8", 12" × 8", 14" × 8" and 16" × 8" to 20" × 7½" sections inclusive	10 –	do.
22" × 7" section	15 –	do.
4" × 2½", 4" × 3", and 24" × 7½" sections	20 –	do.
Steel angles and tees	£35 – –	do.
Steel bars (average ex mills)	£33 – –	do.
Mild steel rods ⅜" diameter and upwards, cut to lengths within the usual margin and bent to normal schedules for reinforcement	43 –	per cwt

Extras per ton—		
⅞in and 1in diameter in size	15 –	per ton
¾in do. do.	15 –	do.
⅝in do. do.	22 6	do.
½in do. do.	30 –	do.
⅜in do. do.	60 –	do.
¼in do. do.	90 –	do.

Extras for length—		
5ft to 3ft	7 6	do.
3ft to 2ft	15 –	do.
2ft	22 6	do.
40ft to 45ft	15 –	do.
45ft to 50ft	22 6	do.
Bolts and nuts	80 –	per cwt
Trench covering, including trays 1¼in deep and rebated frames, 9in wide	10 –	foot run
Do., but 12in wide	13 9	do.
Do., but 14in wide	15 –	do.
Do., but 18in wide	16 9	do.

METAL WINDOWS AND DOORS—		
Steel casement doors and frames for glazing	9 6	foot super
Do. folding type	7 6	do.
Fireproof steel framed doors	30 –	do.
Strong room doors	65 –	do.
Strong room gates	30 –	do.
Steel windows part opening commercial type	9 –	do.

CHAIN LINK FENCING—
In 25 yards lineal rolls inclusive of line wire.

2in mesh.	Height in inches— 36	42	48	60	72
10½ Wire gauge	84 9	99 –	111 3	141 2	169 7
12½ do.	59 8	69 7	79 7	99 6	119 5
14½ do.	42 7	49 8	56 10	71 1	85 3

DOUBLE SOOT DOORS AND FRAMES—
Fitted with brass turnbuckle and cast key: 9in × 9in 16 6; 12in × 9in 21 –; 14in × 12in 33 9

SLIDING DOORS, GATES AND PARTITIONS—

Factory sliding doors in two leaves containing about 100 square feet with mild steel angle frames covered with 24 gauge corrugated galvanized sheeting and including hanging tubular track and gear complete	11 –	foot super
Factory entrance gates with mild steel frames clad with 2in mesh chain link complete	8 9	do.
Steel partitioning, glazed (rough cast) and stove enamelled	13 6	do.

STEEL ROOF LIGHTS—

Lanterns with vertical sides, and hipped roof, glazed with ¼in cast glass and lead flashed (180ft super or over, all surfaces measured)	13 6	foot super
Skylights of similar construction (180ft super or over, all surfaces measured)	12 6	do.

DOMESTIC BOILERS
For hot water or heating, for use with solid fuel, including base plates.

Gal. per hour from 40 to 140 deg.	Heating only direct radiation sq. feet	Black finish £ s d	Vitreous enamel finish £ s d	Vitreous enamel side jackets s d
20	—	6 3 6	7 10 0	10 0
20	55	7 3 6	9 2 9	11 3
20	55	—	12 1 0	—
25	70	—	14 14 6	—
25	70	8 11 6	10 14 0	13 6
40	110	13 19 6	16 12 3	16 0

Radiators for heating—3 6 per sq. foot heating surface.

GAS, WATER AND STEAM TUBES
(From Standard List.)

Internal Diameter—	¼in & ⅜in	½in	¾in	1in	1¼in	1½in	2in
Tubes per ft	4*d*	4½*d*	5½*d*	6½*d*	9½*d*	1 1	1 4½	1/10
Bends each	8*d*	9*d*	11*d*	1 2	1 7½	2 7½	3 2	5/2
Elbows, sq. do.	10*d*	11*d*	1 1	1 3	1 6	2 2	2/7	4/3
Do., round do.	11*d*	1/–	1 2	1 5	1 8	2 4	2 10	4 8
Tees do.	1/–	1 1	1 3	1 7	1 10	2 6	3/1	5/1
Crosses do.	2 2	2 4	2 9	3 3	4 1	5 6	6/7	10/8
Backnuts do.	2*d*	2*d*	3*d*	3½*d*	5*d*	6*d*	8*d*	1/1
Sockets do.	3*d*	3*d*	4*d*	5*d*	6*d*	8*d*	10½*d*	1/3
Sockets, dimin. do.	4*d*	5*d*	6*d*	7*d*	9*d*	1/–	1/4	2/–

DISCOUNTS OFF ABOVE
In random lengths and in quantity.

TUBE—

Class A (light)	—30%	Black	+ 3½% Galvanized
Class B (heavier)	—20%	Do.	+ 12½% do.
Class C (heaviest)	—10%	Do.	+ 27½% do.

FITTINGS—

Light weight	+ 0%	Do.	+ 17½% Galvanized
Heavy do.	+ 7½%	Do.	+ 25% do.

RAINWATER GOODS (Painted or Unpainted)

Rainwater pipes, 6ft lengths,	2in	2½in	3in	3½in	4in	5in
per yard	2 8	2 9½	3 1½	3 6½	4 1½	5 4½
Shoes each	1 1½	1 3½	1 6	2 –	2 3	4 0½
Bends each	1 3½	1 6	1 10½	2 3	2 8½	4 10½
Heads each	1 10½	2 1½	2 6	3 0½	3 4½	6 0½
Offsets, 4½in projection each	1 7½	2 –	2 3	2 6½	3 3	5 7½
Do. 9in do. each	2 1½	2 4½	2 9½	3 6	4 2½	6 7½
Single junction each	1 11¼	2 3½	2 9½	3 3	3 11¼	6 3½

Half round gutters, 6ft. lengths						
per yard	—	—	1 3½	1 5	1 5½	1/10
Angles and nozzles each	—	—	1 0½	1 2½	1 3½	1 7½
Stop ends each	—	—	3½*d*	3½*d*	5½*d*	7½*d*
O.G. gutters, 6ft. lengths per yard	—	—	1 8½	1/10½	1/10½	2/5½
Angles and nozzles each	—	—	1 5½	1 5½	1 6	2/–
Stop ends each	—	—	4½*d*	5½*d*	6½*d*	9*d*

The above prices plus 81% added to foot of invoice.

CURRENT MARKET PRICES *(Continued)*

PLASTERING MATERIALS

Sand, lime, cements and various plasters are previously included under those heads—

Metal lathing (2" × 24G.) (20 yds.)	2 10½	sq yard
Plaster baseboard ⅜" (150 yds.)	3 5½	do.
Plaster wallboard, ½" (do.)	3 10½	do.
Scrim, 2" cotton (100 yds. roll)	9 1	per roll
Scrim, 3½" jute (do.)	12 5	do.
Lath nails, galvanized	1 5	lb
Cow hair	97 6	per cwt
White glazed tiles (6" × 6" × ¼") small quantity	16 9	sq yard
Do. rounded on one edge small quantity	20 –	do.
Do. on two adjoining edges small quantity	24 6	do.

PLUMBER'S GOODS

Sheet lead 4 lb. in 1 ton lots, 199 – per cwt.

IRON SOIL AND WASTE PIPE—

	2in	2½in	3in	3½in	4in
L.C.C. coated (M) per yard	3 1½	3 4	3 8½	4 2½	4 9½
Bends each	2 3½	2 6½	2 9½	3 6	3 11½
Swannecks, 4½" projec., do.	2 9½	3 3	4 5½	5 1½	5 11½
Do. 9in do. do.	3 9	4 2½	5 1½	5 11¾	7 –
Junctions do.	2 9½	3 6	4 2½	4 10½	5 7½
Round access doors do.	5 3	5 3	5 3	5 7½	5 7½

The above prices plus 81⅓% added to foot of invoice.

GALVANIZED CISTERNS—

(Less than four) each	gallons 100	200	300
Angle iron at top and corner plates :			
14 gauge	141 –	260 –	362 –
12 ditto	170 –	286 –	389 –
¼in plate	199 –	325 –	448 –
		gallons	
HOT WATER TANKS—	25	30	50
Riveted with ring :			
12 gauge	109 –	119 –	165 –
¼in plate	119 –	129 –	183 –
		gallons	
	25	37	48
CYLINDERS—	25	37	48
Riveted with hand hole :			
12 gauge	147 –	163 –	184 –
¼in plate	162 –	182 –	208 –

PLUMBERS BRASSWORK, etc.

	Each ½in	¾in	1in	1¼in
Boiler screws, single nut	1 7	2 1	3 1	5 –
Ditto, double nut	2 1	2 9	4 9	7 –
Cap and lining	1 1	1 8	1 10	2 1
Plumbers unions	2 6	3 4	4 6	7 –
Ball valves, screwed iron	14 –	22 –	—	—
Ditto, fly nut and union	15 –	23 –	—	—
Bib valves, crutch top screwed iron	9 6	14 3	—	—
Ditto, but screwed boss	11 –	16 –	—	—
Stop valves, screwed iron	9 –	13 –	—	—
Ditto, screwed iron and union	11 –	17 –	23 6	—
Ditto, double union	12 –	19 6	30 –	—
Waste, plug chain and stay	—	—	6 –	6 6
	1¼in	1½in	2in	4in
Caps and screws	2 9	3 –	5 –	—
Sleeves, long	—	—	7 8	11 –
Ditto, short	—	3 6	4 8	7 6
Thimble	—	4 4	5 6	11 9
Full way gate valves, hot pressed	23 –	32 –	—	—
		1¼in	1½in	2in
Lead 7 lb. P. trap		9 –	11 9	16 6
Ditto, S. trap		11 –	14 6	20 4
Lead 6 lb. P. traps with 3in seal		10 –	12 1	—
Ditto, but S traps ditto		12 5	15 2	—

Wire balloon guards, copper, 2in 3 – ; 4in 3 3.
Ditto, galvanized iron, 2in 1 9 ; 4in 1 11.
Plumbers solder, 4 9 lb.
Hair felt, 34in × 20in, 24 oz., 7 5 sheet.
Boss white jointing compound, 2 – lb.
Gaskin, 1 9 lb. Hemp, 6 – lb.

COPPER TUBES—Extract from B.S. 659 1944—

Internal work (semi hard). 3 Cwts. lots

Nominal bore	Outside diameter inch	Gauge	Weight lb per ft	Price per lb pence	Price per ft pence
¼in	0·596	19	0·27	39½	10·70
⅜in	0·846	19	0·39	38½	15·00
1in	1·112	18	0·62	37	22·94
1¼in	1·362	18	0·76	36½	27·74
1½in	1·612	18	0·91	36½	33·22
2in	2·128	17	1·40	37½	53·03

CAPILLARY TYPE CONNECTIONS—

All ends copper to copper.

Each	½in	¾in	1in	1¼in	1½in	2in
Straight	2 –	2 9	4 4	5 8	7 8	11 –
Bends	5 2	6 4	9 1	12 5	19 5	27 3
Tees	4 9	5 6	9 4	13 –	18 6	27 3
Brackets (brass)	2 2	2 5	2 10	3 –	3 5	4 5

GLASS

English flat drawn Sheet Glass in squares, cut to size. Ordinary Glazing Quality

Per foot super.	
24 oz., do.	5½d.
26 oz., do.	7½d.
32 oz., do.	9½d.

Figured, Rolled and Cathedral glass, cut to size, per foot super : White 7½d. Tinted 10½d.

Prismatic glass, cut to size 1/3 per foot super

Rolled and wired glass, cut to size, per foot super :

¼" Rolled	7½d.
7/32" or ⅛" do.	8½d.
5/32" or ⅛" Rough cast	8½d.
¼" Wired, rolled or cast	9½d.
Georgian wired cast	10d.
White Muffled	2 3
Fluted (No. 4)	10½d.
Feathered	10½d.
Reeded (Narrow, Broad, Cross and Major)	9½d.
Reedlyte (Narrow and Broad)	9½d.
⅛" Calorex Cast	1 2½d.
¼" Calorex Cast	2 5d.
¼" Polished Plate Calorex	Price according to specification

POLISHED PLATE GLASS. (Tariff). Cut to sizes.

Ordinary substance approximately ¼in thick.

Per superficial foot :	Qualities General Glazing	Selected Glazing	Silvering
In plates not exceeding :			
2ft super in each	3 2	3 8	4 5
5ft ditto	3 10	4 5	5 3
45ft ditto (unless extra sizes)	4 5	5 –	6 –
100ft ditto (ditto)	4 9	5 9	7 6

Extra sizes, i.e., Plates exceeding 100ft super or 96in high or 160in wide at higher prices.

DECORATING MATERIAL

	Price	Unit
Aluminium Paint	35 –	Gallon
Distemper, ceiling	33 9	Cwt.
Distemper, washable	112 –	do.
Enamel	60 –	Gallon
Gold Metallic Paint	86 6	do.
Heat Resisting Paint	45 –	do.
Japan, black	22 –	do.
Knotting	30 –	do.
Linseed Oil	21 9	do.
Boiled, ditto	22 3	do.
Proprietary Paints (good class)—		
Finishing	58 –	do.
Priming	37 –	do.
Undercoat	54 –	do.
Paperhangers Paste	33 –	Cwt.
Petrifying liquid	7 6	Gallon
Putty	59 –	do.
Size	9 3	Firkin
Terebine	16 –	Gallon
Turpentine substitute	5 4	do.
Varnish, oak, copal, inside use	32 –	do.
Ditto, ditto, outside use	35 –	do.
Ditto, white, eggshell, flat	44 6	do.
White lead mixed paint	72 –	do.
White lead	223 6	Cwt.
Whiting	12 6	Cwt.

Western Red Cedar SHINGLES (WOOD TILES)

combine economy in roofing and construction with tested durability and architectural charm.

Note how the shingles in this cottage follow the contours, and the pleasing effect of the irregular laying of the shingles in the gable.

Cedar Cottage, Papworth Everard, Cambridge

. . . "As good today as when the building was erected"

say Papworth Industries

WESTERN RED CEDAR SHINGLES (Wood Tiles) were used for the roof and gables of this cottage which was specially designed for Papworth Industries, Cambridge. Drawings and photographs of it were exhibited at the Royal Academy in the year Sir Edwin Lutyens was President. Papworth Industries write (November 15th, 1951) :—

> *"Although the building was erected in 1937, the shingles have stood up perfectly, and they are, in our opinion, as good today as when the building was erected. In fact, from the aesthetic point of view, they are better because they have weathered beautifully."*

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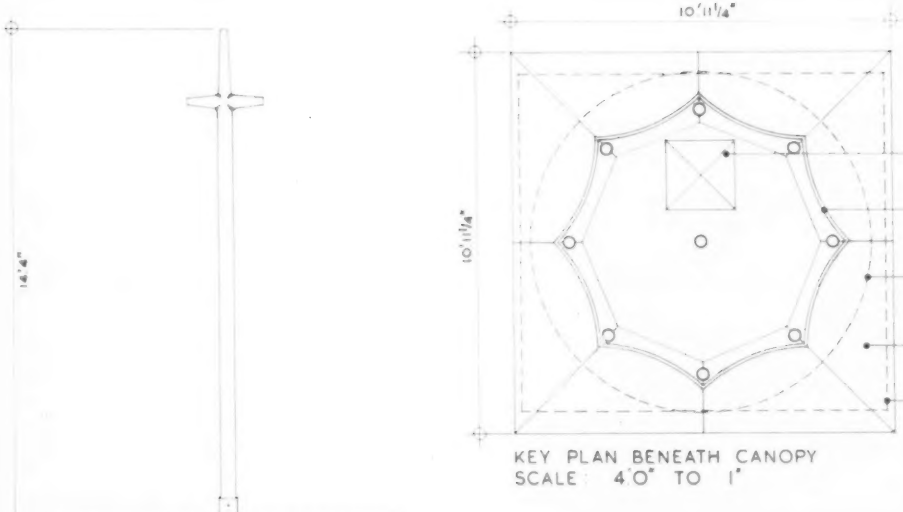
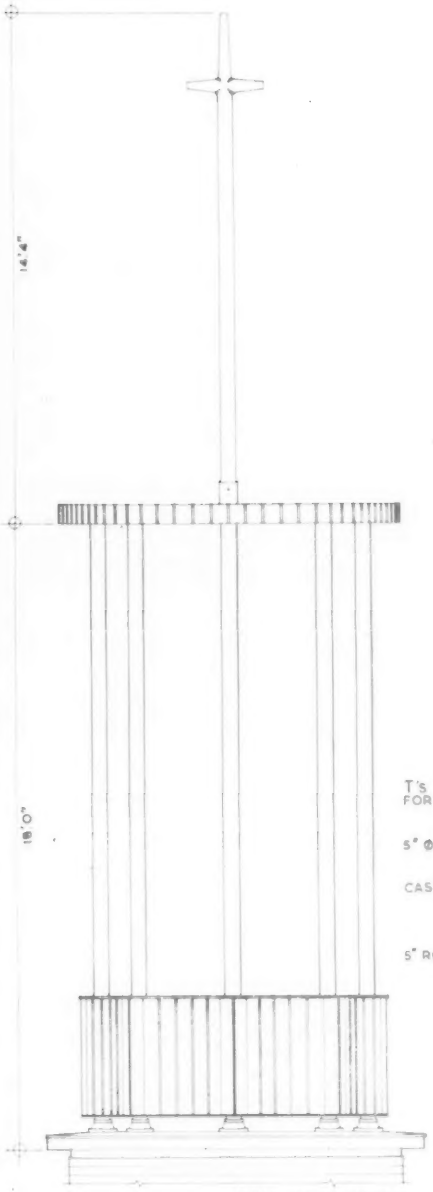
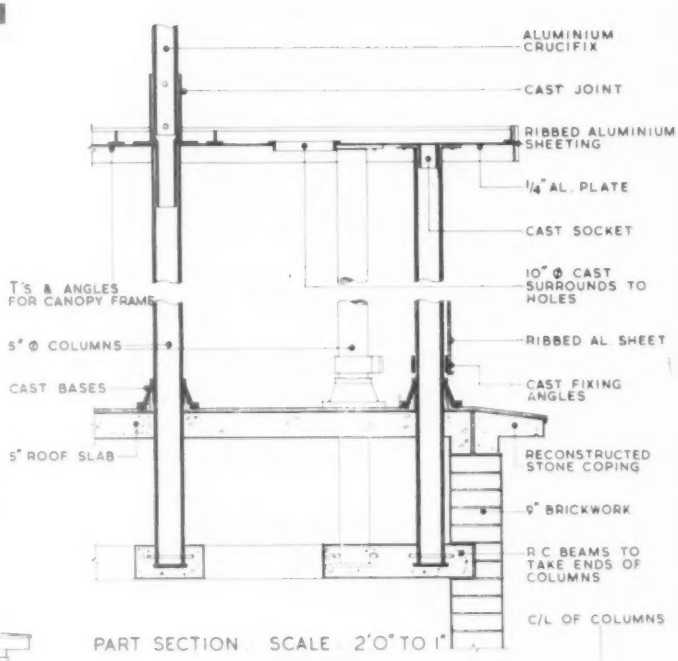


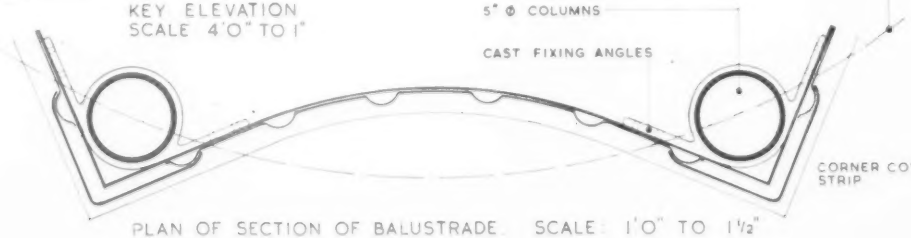
KEY PLAN BENEATH CANOPY
SCALE 4'0" TO 1"



KEY ELEVATION
SCALE 4'0" TO 1"

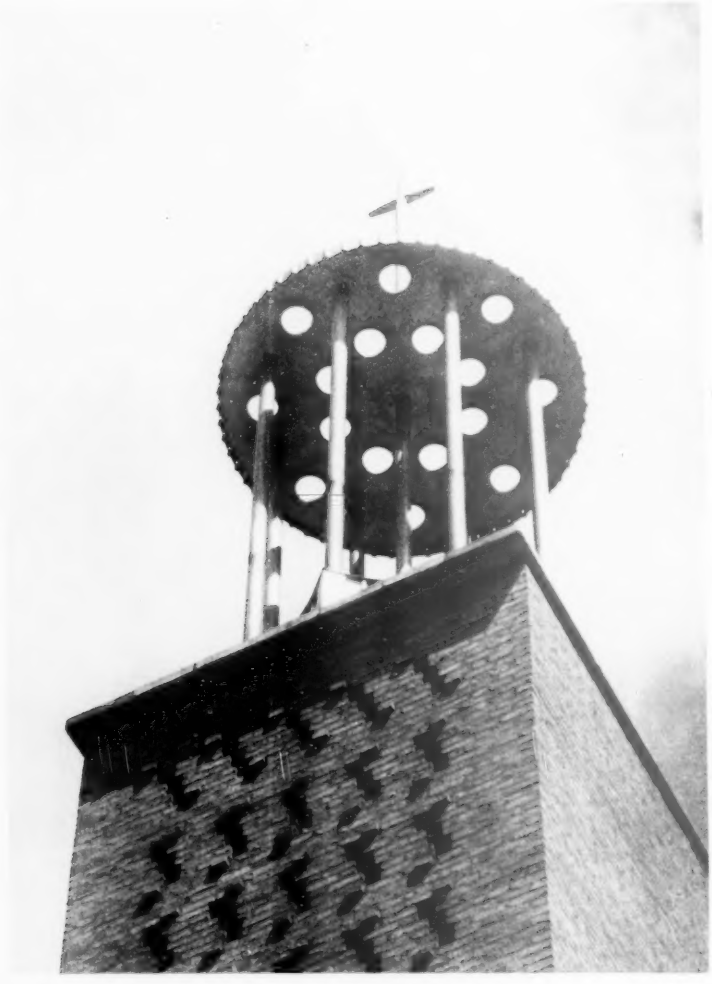


PART SECTION SCALE 2'0" TO 1"



PLAN OF SECTION OF BALUSTRADE SCALE 1'0" TO 1½"

ALUMINIUM CUPOLA TRINITY CHURCH, POPLAR • C.C. HANDISYDE & D.R. STARK



CUPOLA, TRINITY CHURCH, POPLAR

ARCHITECTS: C. C. HANDISYDE & D. R. STARK

GOOD, BAD OR INDIFFERENT ?

No. 64.—By A. FOREMAN

Glass Block Walls

A BUILDER friend was telling me recently about some trouble he had experienced in the building having some large panels of glass blocks used both internally and externally. It seems that he had not taken nearly enough care to carry out the supplier's instructions on how these blocks should be fixed. It is an example of how careful one must be, when using a new material, to follow out the maker's recommendations.

From my own experience I know that great care is needed to install these blocks properly and more especially if there are doorways or similar openings in the panels. The blocks need careful handling until they are in position as they are liable to become clipped; a most important point is to set them out carefully before starting work and making very precise allowances for the joints as they must be used as whole blocks and cannot be cut to fill spaces. There are quite large tolerances on the nominal sizes which have to be considered in conjunction with the joints. All joints should be vertical and horizontal throughout the panels and not be bonded as in brickwork since only full blocks are available.

I have heard opinions that panels should not be very large owing to the risk of their being blown in by wind, but if panels do not exceed 20ft in length or 10ft in height I am sure there is no risk. Panels can be made larger if they are stiffened.

More than normal care should be taken to keep the joints true and plumb as much of the effect is derived from the mortar joints; the mortar joints must be fully filled. The recommended mortar is a rather dry mix as the blocks are non-absorbent, compared with bricks or other types of block, and should be made from one part of cement, one part of lime putty and four parts of sand. Joints should be at least ¼in thick, and preferably rather more, to pick up variations in block sizes; joints are probably best finished as the work proceeds by slightly pressing them back rather than using a weathered finish. I have seen many panels which have had the joints raked out and been subsequently pointed. White cement and a very light coloured sand make a more pleasant colour for joints.

The most difficult type of blocks to deal with when setting out are the curved ones as these need applying to the correct radius otherwise the joints are wedge shaped and difficult to maintain at an even width. The proper radius is set by the makers and has to be followed from the earliest stages of design of the building and long before building commences. There are corner type blocks for making right angle turns; these have quite small radii.

The really important factor in forming glass block panels is to deal properly with the outside and top edges. They must be built into a groove in the surrounding work or there is a risk that the panels may be pushed bodily out of place. These grooves need to be ¼ to ½in wider than the blocks and about 1in deep. If the surrounding materials are some hard substances such as brickwork these grooves are rather troublesome to form but chases can be left easily in pre-cast concrete; this is a most important consideration especially where curved blocks are used as it is so difficult to cut neat chases.

I believe much trouble has arisen from builders filling these outside joints with mortar instead of using a mastic which does not harden too much. The panels must be permitted to expand. On one occasion I saw blocks bedded in the non-setting mastic supplied for the outside joints instead of in mortar so that any could be pushed out of place. Care is needed not to use glass blocks where they might be accidentally hit. I saw an instance where a door could open through 180° and either one sudden blow or repeated banging of the door knob had broken a block and it was extremely difficult to replace it.

When door frames are placed in glass block panels they need very secure fixing and must themselves be substantial so as to transmit as little vibration as possible to the panel. It is possible to insert strong metal strips up to ¾in thick in the joints so such strips should be fixed to the head of the frame and carried over to the walls or ceiling adjoining. The frame should be dowelled to the floor. It is usual to fix short lengths of about 15in of expanded metal to the frames and bed these into the joints of the blocks at every third or fourth vertical course. But normal building lugs as supplied with metal door frames are satisfactory; these need to be ordered in special positions to suit the joints. The joints between door frames and the blocks should be filled with mastic and not mortar. Care should be taken to see that the overall heights and widths of frames coincide with the joints between blocks in each direction.

Glass blocks are not designed to carry any load at all other than the weight of a panel of blocks up to about 20ft. Care has to be taken to see that the lintel over does not sag and reduce the clearance in the top groove. Special blocks are available where ventilation is wanted in glass block panels; they are of the same dimensions as normal blocks and, if wanted, as for example in larders, they can be fitted with fly-screens. It is possible, although in my opinion not very advisable, to fit windows into glass block walls if they are provided with specially wide frames, as are needed for doorways, so that they clip round the blocks and give adequate anchorage to the panels.

NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS

Following is the speech made at the Annual General Meeting of the Federation on January 30, by Mr. Stephen Hudson, (of Sunderland) the retiring President.

MR. STEPHEN HUDSON (of Sunderland), retiring President of the National Federation of Building Trades Employers, at the Annual General Meeting of the National Federation held at the Liverpool Victoria Friendly Society's Building, in London, on Wednesday, January 30, said in his speech:

Our message to the Government is —see that we get more materials during 1952 and we promise, with the same labour force, to use those materials even more economically and more speedily than in 1951. Materials are our big problem, and the action already taken by the Government has gone a long way towards giving all in the building industry the necessary confidence and encouragement to intensify their efforts. In response to the industry's request for a long-term programme, the Minister of Works has stated that the Government's policy is to maintain the manpower in the industry and to employ it to the full. There could be no better encouragement.

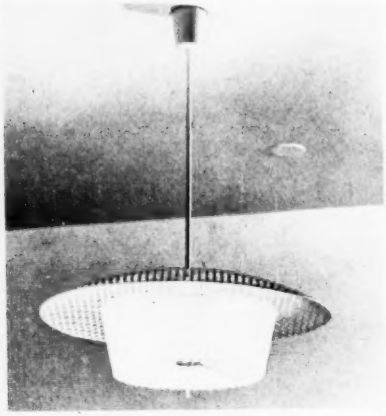
As regards housing, our proposals that greater scope should be given to the free enterprise builder have yet to be fully adopted, but, in view of the difficulties, the Government have made a good start. They will get every encouragement from us to speed up and to keep right on to the end of the road. The new Housing Boards will soon find that the best way to increase the head of labour on housing is to enable the small builder to do as he did before the war, and combine maintenance and repair work with the building of a few new houses. The Boards will also find that the Town and Country Planning Act must be amended if land is to be easily transferred.

Recently the National Joint Council for the Building Industry agreed to increases in wages which amount to 11s per week. This should at least maintain the financial status of our operatives, but equally important is their general standing with the public—and there is no industry more in the public

[*Continued on page 183*

SERVICES, LIGHTING B1 21

Numbers B1 21 to B1 24 in this series are selected from a new range of lighting fittings placed on the market at the beginning of 1952. Illustrated here is a pendant which allows for height adjustment. The white flashed glass diffuser is decorated with a snowflake motif and allows for upward illumination. The shade is of pleated buckram obtainable in a variety of colours. Metal work is bright lacquered brass. The shade diameter is 22 inches and the height is adjustable between 24 inches and 48 inches. The price is £7, including purchase tax.

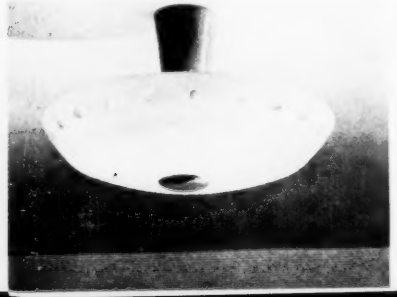


SERVICES, LIGHTING B1 22

Designed with an eye for architects seeking domestic fittings, this model from the same firm as numbers B1 21, 23 and 24, takes three 60-watt lamps. The top reflector is an enamelled perforated metal spinning. The ceiling plate, downrod and fimal, are finished in satin brass. The shade is cream pleated paper with a diameter of 22 inches. Overall length is 36 inches and the price, including purchase tax, is £10 5s. 0d.

SERVICES, LIGHTING B1 23

This single 100-watt pendant fitting has a reflector of spun perforated metal sprayed with pastel coloured enamel. The peach buckram pleated shade is cradled in a satin brass wire frame. The latter is clipped to the reflector. The ceiling plate and downrod are finished in satin brass. Overall height of the fitting is 36 inches, the diameter is 15 inches, and the price is £6 10s. 0d., including purchase tax.



SERVICES, LIGHTING B1 24

Priced at £8 10s 0d., this fitting has a Burma teak shaft and a decorated champagne flashed opal bowl, 18 inches in diameter. Metal is bright acquered brass.

MOSAICS

The names and addresses of manufacturers of any item illustrated in MOSAICS, together with more detailed information relating to their products—including price and availability—will be forwarded to readers on request.

Letters should quote the serial number and be addressed to:

The Editor,
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Stamford Street, S.E.1.

Please mark the envelope MOSAICS.

INDUSTRIAL NOTES

A cement price increase of 4/6 a ton for ordinary and rapid hardening Portland cements sold in the home market came into force on January 25. The cement industry has assured the Minister of Works that the new price will not be raised unless there are further major cost increases. On the basis of these assurances price control over these cements has been withdrawn.

*

Following is a schedule of the new wage rates per hour, operating on and from February 4th, 1952.

CRAFTSMEN AND LABOURERS—

	Craftsmen	Labourers
London—(within 12-mile circle)	3 6	3 0½
London—(12-15 miles) ...	3 5½	3 0
Grade "A" Districts	3 4½	2 11
Grade "A1" Districts	3 4	2 10½
Grade "A2" Districts	3 3½	2 10
Grade "A3" Districts	3 3	2 9½
Liverpool Special ...	3 6	3 0½

APPRENTICES—

Age	London Inner	London Outer
15	10½	10½
16	1 2	1 2
17	1 9	1 8½
18	2 2½	2 2
19	2 7½	2 7½
20	3 0½	3 0½
21 and over—full rate	3 6	3 5½

YOUNG MALE LABOURERS—

Age	London Inner	London Outer
15	1 0½	1 0
16	1 4½	1 4½
17	2 0½	2 0
18	3 0½	3 0

WOMEN (ALL DISTRICTS)—

On craft processes	2 5
On other work	2 1

ROAD HAULAGE WORKERS IN THE BUILDING INDUSTRY (RATES PER WEEK)—

	London
(a) Drivers of Vehicles of—	
Up to and including 15 cwt carrying capacity	141 6
Over 15 cwt and up to and including 2 tons carrying capacity	150 6
Over 2 tons and up to and including 5 tons carrying capacity	156 6
Over 5 tons capacity	160 6
Tractors (Steam and I.C.) ...	159 6
(b) Mates and Statutory Attendants (18 years of age and over)	146 6
(c) Drivers of Vehicles with trailer attached	6d. per day extra

Continued from page 181

eye than ours. Whether this standing is maintained will depend largely on the extent to which the extra pay is earned by extra work. I hope that the early meetings which the Joint Executives of Employers and Operatives have promised to hold to consider accelerating the spread of bonus schemes and making the best use of summer hours will lead to further increases in output, particularly on housing and defence schemes. I realize that the systematic working of long hours is uneconomic, but few will challenge my view that in the present critical situation it would be anomalous if the industry's machinery for the granting of overtime were not such as readily to facilitate the working of an extra hour a day during the spring and summer months.

The cost of materials as well as wages has risen, and if we are not to price ourselves out of the market we must increase output and keep costs down. That our product is already too expensive for many building owners is clear from the increasing number who are carrying out building work themselves. The writing is on the wall; we shall ignore it at our peril.

Despite the report of the Working Party which recommended no important change in the structure of the Industry, one of the Trade Unions has recently returned to the charge. My advice to them, and indeed to all in the industry, is that neither nationalization, mutualization, nor further controls are substitutes for co-operation. Only team work plus hard work will see us through.

N.F.B.T.E.
Summary of the Annual Report.

Materials

The inadequacy of the supply of materials remains the crux of the building programme. The efforts of building contractors to achieve greater efficiency and lower costs, the completion of jobs on time, the more widespread introduction of payment-by-results schemes, the training of apprentices and the general attitude of the building operative to his job, all depend to a large extent on materials arriving on the sites at the right time, in the right quantities and in the right sizes. At no time since the war have materials been so plentiful as to permit the industry to approach its task with confidence and from time to time there have been serious shortages of bricks, cement and timber.

Steel.—The steel situation is undoubtedly critical and the possibility of securing adequate supplies for building work in 1952 appears to be remote. Not only has the rearmament programme created an additional demand, but the steel industry's output in 1951 has been appreciably less than in 1950.

The introduction of the new allocation scheme will not, of course, result in more steel for building. Nevertheless, the scheme will do all that can be expected of it if it results in such steel as is available being directed to the most urgent and important jobs.

Bricks.—The brick industry can claim a record of steady post-war expansion, even if the average monthly output of 650 million in 1938 has not yet been reached. The 1951 rate of production was sufficient to keep pace approximately with consumption, but stocks, which have rarely exceeded 200 million in the past year and which fell to only about 145 million by the autumn, have been too low to prevent recurring hold-ups in deliveries to individual sites.

Cement.—The acute general shortage of cement which builders experienced in 1950 has not been repeated, although temporary difficulties have been experienced in certain areas which rely for their supplies on coastal shipping. In general, however, such difficulties as have occurred have arisen from the shortage of bags; cement was available for delivery in bulk but builders have difficulty in storing it in this condition. In view of this situation, great interest has been displayed in a method, based on Swedish practice, which has been developed by a member of the Yorkshire Federation for handling cement in bulk. . . . If the shortage of cement bags can be met in this way, there is good reason to believe that supplies to building sites in 1952 will be at least as good as they were in 1951.

Timber.—In 1951 the timber trade has had partial freedom to the extent that the purchase of timber from the Baltic and certain soft currency areas has been in private hands. The results have been encouraging and have fully justified the confidence reposed in private as compared with public trading. While it may be too early to assess the full effects of the entry into the market of the private buyer, it is thought that, in addition to a very much improved stock position, there has been an improvement—a matter of importance to the building industry—in the quality and sizes available. It is to be hoped that this trend will continue, and that the larger measure of freedom now to be given to the timber trade will make possible ever greater improvement.

Plasterboard.—Stocks have averaged only about 750,000 sq yd, compared with well above 1,250,000 sq yd throughout 1949 and the first half of 1950. Shortage of paper has prevented an increase in output in 1951 and builders have frequently complained that orders are as much as nine months in arrear.

Other Materials.—The small copper allocation granted to the tube drawers resulted in copper tube, which is being increasingly used in plumbing, being very short throughout the year, builders' merchants have been able to carry little or no stocks and they have often quoted two years or more for delivery. Shortages of the raw materials have also affected supplies of plumbers' brassware. It was inevitable that any items which contain iron and steel would have been in short supply; the shortage of nails, both wire and galvanized, has been particularly acute and has led to numerous representations being made to the Ministry of Works, while builders have often had to wait a year or more for deliveries of cast-iron soil-pipes and fittings and cast-iron rain-water pipes. Deliveries of asbestos-cement rain-water goods have often taken nine months or more from the date of order. Paint supplies have not been altogether satisfactory. Sanitary earthenware and fireclayware have, however, on the whole, been in reasonably good supply. The same may be said of concrete products, concrete roofing tiles, plaster and gypsum, mastic asphalt, sand and aggregate, and glass.

Building Costs

A disturbing feature of 1951 has been the substantial increase in costs. Following the trend of raw material prices generally, building materials prices rose steeply, particularly in the early part of the year, and by September the general level of prices was about 20 per cent above that prevailing at the end of 1950. The cost of building labour has also risen. It is probable that, taking into account the degree to which increases in material costs and wage rates were offset by higher output, building costs rose by some 15 per cent in the first ten months of 1951. Related to the total output of the building and civil engineering industries, this is equivalent to an addition of almost £200 million a year, sufficient to pay for about 130,000 new three-bedroomed houses.

There seems little prospect, moreover, that this upward trend will be arrested in the near future. The various schemes for the collaboration of individuals in building their own homes which have recently been publicized and the increasing tendency of householders to carry out all their own decoration and much of their maintenance work are indications that the cost of building has now reached a level which the average private consumer is becoming unwilling or unable to pay. The effect of this consumer-resistance on the activity of the industry is to a large extent concealed by the large amount of work being carried out by public bodies. If, having regard to the condition of the national finances, an enforced cut were made in that class of work, the industry could quickly find itself in serious difficulties.

Efficiency of the Industry

These unfavourable trends underline the importance of further efforts to promote efficiency and economy in the execution of building works of all types. Both independently and in collaboration with the other national organizations in the industry, the Federation has continued during the year to press forward with the implementation of those recommendations of the Working Party and the American Productivity Team which are the direct responsibility of building trades employers. But it must be emphasized that the function of the Federation, and indeed of the Government also, is primarily to provide the framework within which the industry can operate flexibly and efficiently; to the extent that external factors permit, the final responsibility for better and cheaper building depends upon the determination of the individual architect, contractor, subcontractor and operative on the job to secure good results and, above all, upon the effectiveness of the collaboration between them.

Collaboration with Architects.—Consideration is now being given by the architects to the desirability of giving prospective architects an opportunity to obtain first-hand experience on building sites by spending in the employment of building contractors some or all of the year's practical training before admission to the Register of Architects. The Federation Council has agreed to recommend members to co-operate fully in any scheme which may be prepared for enabling architectural students to obtain such experience.

Collaboration with Surveyors.—One of the recommendations in the Working Party Report to which the Federation attached some importance related to the rule of the Royal Institution of Chartered Surveyors which precludes a chartered quantity surveyor retaining his membership of the Institution if he becomes a member of a building firm or is employed by such a firm. The effect of this rule is that surveyors employed by

builders are discouraged from taking the Institution's examinations and so obtaining full professional status.

The Working Party's recommendation that the rule might be modified to enable the Royal Institution to cater for surveyors employed commercially has been discussed between the Federation and the Royal Institution, but it was not found possible to alter the opinion of the Quantity Surveyors Committee that the independent professional status of the chartered surveyor might be prejudiced by an alteration of their rule in the manner suggested.

Housing

The speed of house construction is governed by the following factors:—

(i) The availability of land for development and the effect of legislation which prevents easy and speedy transfer of land from one owner to another;

(ii) The availability of adequate supplies of the requisite materials and labour;

(iii) The availability of adequate funds for financing the construction and purchase of houses and at rates of interest which will not result in the mortgage repayments or rents being beyond the reach of those in need of houses;

(iv) The degree of flexibility of the organization responsible for the provision of houses; and the possibility, or otherwise, under current systems of licensing and allocation, of development on a large enough scale to make possible speedy and economical construction.

These are the considerations which have guided the Federation of Registered House-Builders (which represents those members of the National Federation engaged in private housebuilding) in framing the various proposals which have been submitted to the Government on behalf of private enterprise housebuilders since the end of the war.

Since it took office at the end of October, 1951, the new Government, faced with a serious crisis in the nation's affairs, has naturally moved cautiously, and no definite figure of the number which it is proposed to build in 1952 has been announced. The changes in government policy so far announced are certainly moves in the right direction, but, in the Federation's opinion, the Government should, at an early date, give more comprehensive consideration to the factors affecting the speed and efficiency of housebuilding already mentioned. The success of the Government's housing policy depends upon the extent to which the private enterprise housebuilder feels that the conditions under which it is possible for him to operate effectively are being restored.

Town and Country Planning Act.—Land being the private builders' stock-in-trade, the availability of land for development is the first essential for private enterprise housebuilding. Certain of the provisions of the Town and Country Planning Act, 1947, and particularly the sections of the Act relating to the levying of development charges, constitute a major obstacle to the easy and speedy transfer of land and to its development. The experience of the last four years has been sufficient to establish the fact that the buying of land at existing-use value is not a practical proposition and that free land transactions are being seriously hindered. The 100 per cent development charge removes the incentive for owners to sell land or for developers to develop it, with the result that there is a tendency to continue the existing use of property for as long as possible.

Finance.—The availability of adequate funds for financing the construction and purchase of houses is a major factor in housing progress. It has been pointed out to the Government that, if they desire the assistance of private housebuilders, they must ensure that their functioning is not restricted by any of the recent and prospective changes made by, or at the request of, the Government in the credit position as it affects both the purchaser and the housebuilder. If the need to curb inflation does necessitate the general imposition of restrictions on credit, the requirements of private housebuilding would appear to call for special treatment. The increase in the cost of bank credits and the possibility of a general increase in the rate on Building Society mortgages will also affect selling prices and rents. These important considerations have been brought by the Federation to the notice of the Ministry of Housing.

Controls and Licensing.—Any system of controls involving the obtaining of licences and of planning permissions, etc.—which may, in any individual case, take up to between 12 and 18 months—is in itself a great discouragement to development, and in a continually rising market, involves the client in considerably increased costs. When, as is still the procedure, licences can be issued only in small numbers and with the eventual purchaser already determined, the planning of estate development on sound principles becomes impossible. A special Sub-Committee of the Federation of Registered House-Builders (affiliated to the N.F.B.T.E.) is discussing the whole position with the chief officials of the Ministry of Housing.

Education and Training

Apprentice Recruitment and Training.—The Federation has continued its activities—nationally, regionally and locally—to foster the recruitment and training of apprentices. The whole position has recently been reviewed by a national conference convened by the Education and Training Committee. Various ways were suggested at the conference in which modifications of the Apprenticeship Scheme might perhaps contribute to the stimulation of recruitment. These included the possibility of allowing (i) reduction of the apprenticeship period in cases of special merit; (ii) dispensation, in special cases, from the requirement to attend evening classes; (iii) special arrangements for indenturing apprentices in circumstances (e.g. in New Town Areas) where indenturing to an individual employer is not practicable; (iv) reintroduction of the "masterpiece" system for apprentices. There were also representations that, while in some Regions the wages of apprentices are regarded as too high, the attraction of craft employment is weakened by the high rates payable to young labourers. These suggestions have been examined by the Federation and Training Committee and their resulting recommendations are being submitted to the N.F.B.T.E. Council.

Registration of Apprentices.—The B.A.T.C. are duly conducting a review of its activities and have asked the National Federation and the Operatives if the function of registration can now be transferred to the industry. A sub-committee of the Executives of the Employers' and Operatives' Federations has considered this request and has agreed that the industry can assume this responsibility.

Scholarships.—The N.F.B.T.E. Council has approved a recommendation that national awards should be made to outstanding apprentices in each Region who have obtained the Ordinary National Certificate and that the award should be of a kind which will encourage the recipients to continue their studies with a view to taking the Higher National Certificate. The making of two special awards to apprentices who have obtained the Higher National Certificate has also been approved.

Administration of Jobbing and Maintenance Work.—The Education and Training Committee has consulted the Regions on a proposal that technical colleges be encouraged to institute courses for the managers of jobbing and maintenance businesses and departments and for those generally who supervise work of this nature. A draft syllabus for these courses has been prepared. An experimental course is being run at the Brixton School of Building and it is hoped that further courses will be organized in those districts where enquiries have shown that they are likely to be supported.

Training of General Foremen.—In the past year there has been an increase in the number of foremanship courses being held throughout the country. The latest information is that courses are available at over 50 technical colleges. About one-third of these courses have been run strictly in accordance with the syllabus drawn up by the Ad Hoc Committee for the training of general foremen and published by the Federation in July, 1948. The other courses vary between modifications of that full course and courses of about 10 lectures on subjects of interest to foremen, or discussion groups. Bearing in mind that some prospective general foremen have insufficient technical knowledge in crafts other than that in which they served their apprenticeship, the Standing Committee for the Training of General Foremen has drawn up a syllabus for a preparatory general foremanship course which would be open to men over 27 who had not received sufficient technical training to undertake the full course. A few preparatory courses based on this syllabus are being held at technical colleges in the 1951-52 session.

The Standing Committee has also published a report on its work up to October, 1951.

Research and Technical Information

The Building Research Committee has continued to concentrate upon the best means of spreading information on new developments. The programme of building research work in hand or to be begun by the Government and other agencies has been examined and the Ministry advised of the subjects to which the Committee thinks priority should be accorded.

The Committee set up by the Building Divisional Council of the British Standards Institution to investigate the subject of modular co-ordination has issued its first report. The Committee felt that its investigations had now reached a stage where practical experiments on a considerable scale were necessary, but before embarking upon these it wished to obtain views upon its proposals as a whole. The Building Research Committee, after considering the report, recommended to the N.F.B.T.E. Council that, as adoption of modular standards would be to the advantage of the industry, the British Standards Institution should be asked to continue the work on modular co-ordination. This recommendation was accepted by the Council.

CONTRACT • NEWS •

Notes below give basic date of contracts open under locality and authority which are in bold type. References indicate: (a) type of work, (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading. (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked ★ are given in the advertisement section.

OPEN

BUILDING

BASFORD R.C. (a) (1) 54 houses at Awsworth Lane, Kimberley, (2) 140 houses at Larkfield East, Nuthall, comprising (Group A) 46, (Group B) 32, (Group C) 32 and (Group D) 30, and (3) 156 houses off Hollinwood Lane, Calverton, comprising (Group A) 50, (Group B) 60, (Group C) 46. (b) Council's Engineer, Rock House, Stockhill Lane. (c) 3gns each contract. (e) Feb. 25.

* * *

BATHAVON R.C. (a) 100 dwellings, Red Post, Peasedown. (b) W. A. Williams, 5, Wood Street, Bath. (c) 2gns cheque, payable to Council. (d) Feb. 14.

* * *

BILLERICAY U.C. (a) 10 houses, Grays View, Billericay. (b) Surveyor, Council Offices, High Street. (c) 2gns. (d) Feb. 14.

* * *

BRIGHTON B.C. (a) 72 flats and stores, Lewes Road. (b) Borough Engineer, 26-30, King's Road (after Feb. 12). (c) 2gns. (e) March 4.

* * *

BRIGHTON B.C. (a) 24 flats, Sylvan Hall Estate. (b) Borough Engineer, 26-30, King's Road (after Feb. 12). (c) 2gns. (e) March 4.

* * *

COVENTRY C.C. (a) Primary school infants' department, Chace Estate, Willenhall. (b) City Architect, Bull Yard, off Warwick Row. (c) 3gns. (d) Feb. 18.

* * *

ESSEX C.C. (a) Hutted classrooms at Pitsea County Primary School (approx. value of contract £4,800). (b) County Architect, County Hall, Chelmsford, with full details. (d) Feb. 16.

* * *

ESSEX C.C. (a) Hutted classrooms at Yardley Lane School, Chingford (approx. value of contract £4,800). (b) County Architect, County Hall, Chelmsford. (d) Feb. 16.

* * *

ETON U.C. (a) 1 pair of houses and block of 8 flats, Tilston Field site, Eton Wick. (b) Engineer and Surveyor, Council Offices, High Street. (c) 2gns. (e) March 11.

* * *

HOLSWORTHY U.C. (a) 8 houses at Glebeland. (b) W. J. Cooke, Manor Offices. (c) 2gns. (e) Feb. 23.

* * *

HYDE B.C. (a) 50 houses, Cheetham Fold Estate and 8 on the Harbour Farm Estate. (b) Borough Engineer, Municipal Buildings, Greenfield Street. (c) 2gns. (e) Feb. 16.

* * *

ILKESTON B.C. (a) 24 dwellings, Kirk Hallam Estate. (b) Borough Engineer, Town Hall. (c) 2gns. (e) Feb. 15.

* * *

IPSWICH B.C. (a) 62 bungalows, Chantry Estate. (b) Borough Engineer, 19, Tower Street. (c) 3gns. (d) Feb. 12. (e) March 13.

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***KNOTTINGLEY U.C.** (a) Reinforced concrete bandstand. (b) Mr. G. J. Laverick, Surveyor, Town Hall. (c) Feb. 22 (noon). See page 29.

* * *

LEICESTER C.C. (a) Secondary school, New Parks Estate. (b) City Education Offices, Newarke Street. (c) 3gns. (e) Feb. 27.

* * *

LONDON—WANDSWORTH B.C. (a) Block of 6 flats at East Hill, S.W.18. (b) Town Clerk, Municipal Buildings, S.W.18, with details of experience, plant, technical and supervisory staff available, and names of 2 technical and 2 financial referees. (d) Feb. 13.

* * *

MARGATE B.C. (a) Public conveniences, Station Road, Westgate-on-Sea. (b) Borough Engineer, 38, Grosvenor Place. (c) 2gns. (e) Feb. 20.

* * *

MIDDLESBROUGH ROMAN CATHOLIC DIOCESAN TRUSTEES. (a) Roman Catholic primary school, Cargo Fleet Lane. (b) Mr. T. Crawford, 80, Borough Road. (c) 5gns. (e) Feb. 28.

* * *

MONMOUTHSHIRE C.C. (a) Primary school at New Inn, nr. Pontypool. (b) County Architect, Queen's Hill, Newport. (c) 5gns, cheque payable to Council. (e) March 1.

* * *

N. IRELAND — LONDONDERRY CORPORATION. (a) 3-storey block of flats at Crawford Square. (b) Housing Architect, 5, Guildhall Street. (c) £5 (to City Accountant). (e) March 1.

* * *

NEW FOREST R.C. (a) Contract No. 5, 30 houses, and Contract No. 6, 28 houses, Site No. 43, Langdown Park, Hythe. (b) Engineer and Surveyor, Council Offices, Lyndhurst. (c) 2gns. each contract. (e) Feb. 18.

* * *

NORWICH C.C. (a) 152 dwellings in 6 groups on the North Park Avenue Estate. (b) City Architect, City Hall. (c) £1. (e) Feb. 18.

* * *

PORTSMOUTH C.C. (a) 116 houses at Paulsgrove. (b) City Architect, Municipal Offices, 1, Western Parade. (c) 3gns. (d) Feb. 12.

* * *

PRESTON B.C. (a) 90 houses, Larches Avenue, Larches Estate (Part III), Ashton. (b) Borough Engineer, Municipal Building. (c) 2gns. (e) Feb. 25.

* * *

REIGATE B.C. (a) 27 houses and outbuildings, Rushetts Farm Estate (Part I). (b) Borough Engineer, Town Hall. (c) 3gns. (e) Feb. 20.

* * *

RHONDDA U.C. (a) 3-storey block of 6 flats with outbuildings, site works, etc., at Station Street, Treherbert. (b) C. Gingell, 13, Ystrad Road, Pentre. (c) 3gns. crossed cheque payable to Council. (e) Feb. 25.

* * *

RUGBY R.C. (a) 20 houses and 4 bungalows, Coventry Road, Brinklow. (b) Council's Surveyor, 24, Warwick Street. (c) 2gns. (e) Feb. 23.

* * *

RUTLAND C.C. (a) Junior and Infants' school at Oakham. (b) Walter Rosser, 20, Derngate, Northampton. (c) 3gns. (payable to Rutland Education Committee). (d) Feb. 12.

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SCOTLAND—FIFE C.C. (a) Extensions at Buckhaven Mining School. (b) Messrs. James Gentles and Son, Central Chambers, Kirkcaldy. (e) Feb. 25.

* * *

TRURO R.C. (a) 4 houses at Cubert, 8 at St. Agnes, 4 at Shortlansend, 4 at Threemilestone, 8 at Tregoney, and 4 at Treworthal. (b) J. H. Snellgrove, 26, Coinagehall Street, Helston. (c) 2gns payable to Council. (e) Feb. 20.

* * *

WHITEHAVEN B.C. (a) Contract No. 2. 2 shops and maisonettes, Valley Estate, Mirehouse. (b) Borough Surveyor, Town Hall. (c) 2gns. (e) Feb. 25.

* * *

WINCHESTER C.C. (a) Block of 6 houses and a block of 6 houses (two designs) on Weeke Estate. (b) Messrs. A. S. Wilson and Partners, 8, Princes Street, Storey's Gate, London, S.W.1. (c) 2gns payable to Corporation. (d) Feb. 21.

* * *

YEOVIL B.C. (a) 18 flats on the Milford Estate. (b) Messrs. Warren and Cooper, The Old Oxford Inn, West Hendford. (c) 2gns. (e) Feb. 21.

PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

BUILDING

OXFORD CITY COUNCIL. (1) 98 dwellings. (2) Freelands Hotel site, Iffley Road. (3) Hinkins and Frewin, Ltd., Canal Street, Oxford. (4) £211,951.

* * *

BIRMINGHAM CORPORATION. (1) First instalment of multi-type school. (2) Garratts Green, Sheldon. (3) C. Bryant and Son, Ltd., 65, Whitmore Road, Birmingham, 10. (4) £122,487.

* * *

ILFORD B.C. (1) 98 flats. (2) Gaysham Hall site. (3) Hammond and Miles, Ltd., Scrafton Road, Ilford. (4) £145,540. Other tenders accepted are (36 houses), A. Jenner, Ilford, £54,638. (30 houses), John Holland and Bros. (Seven Kings), Ltd., £48,843. (21 flats), Surburban Developments (Ilford), Ltd., £39,993.

* * *

BRIGHTON CORPORATION. (1) 59 houses and 41 houses. (2) Hollingdean Estate. (3) Knight Bros. (Brighton), Ltd., Bristol Gardens, Brighton, and Rice and Son, Ltd., Gloucester Place, Brighton. (4) £66,950 and £52,485 respectively.

* * *

MIDDLESEX E.C. (1) Final phase of adaptation of Swaylands Residential Special School. (1) Penshurst, Kent. (3) S. Varney and Co., Ltd., 109, Shakespeare Road, London, S.E.24. (4) £97,904. (1) Superstructure of school. (2) Rokesley site, Hornsey. (3) A. Roberts and Co., Ltd., 79, Eccleston Square, S.W.1. (4) £74,934. (1) Junior school. (2) Spring Grove, Isleworth. (3) H. Pickrill, Ltd., Station Buildings, Wealdstone. (4) £47,892.

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* * *

LICHFIELD. (1) Married quarters and buildings. (2) Fradley R.A.F. Station. (3) J. R. Deacon, Ltd., Lombard Street, Lichfield. (4) £250,000.

* * *

PETERLEE DEVELOPMENT CORPORATION. (1) 206 houses. (2) Eden Lane. (3) G. M. Pearson and Son, Ltd., 19, Front Street, Hetton, Co. Durham.

* * *

BIRMINGHAM UNIVERSITY. (1) Chemical laboratory. (3) J. R. Deacon, Ltd., Lombard Street, Lichfield. (4) £200,000.

* * *

PLYMOUTH E.C. (1) School. (2) Whitleigh. (3) J. Garrett and Son, Ltd., Prince Rock, Plymouth. (4) £83,718.

* * *

CARDIFF CORPORATION. (1) 112 flats. (2) Llanishen Estate. (3) Geo. Wimpey and Co., Ltd., Rhymney River Bridge Road, Cardiff. (4) £156,384.

* * *

RICHMOND (SURREY) B.C. (1) 193 dwellings. (2) Sandy Lane site. (3) The Bunting Construction Co., Ltd., 73, Acre Lane, S.W.2. (4) £303,567.

* * *

SURREY C.C. (1) First stage of primary school. (2) Kingston-on-Thames. (3) H. F. Meech (Builders), Ltd., £45,000.

* * *

NEWCASTLE-ON-TYNE CORPORATION. (1) 120 flats, etc., in multi-storey blocks. (2) Hindhaugh Street. (3) Stanley Miller, Ltd., 17, North Street, Newcastle. (4) £315,000.

* * *

CEIRIOG R.D.C. (1) 40 houses, 6 shops. (2) Rhosywaen site. (3) W. F. Humphreys, Ltd., Acrefair, Ruabon. (4) £80,975.

* * *

LONDON W.C. (1) Nurses' home. (2) St. Paul's Hospital, Endell Street. (3) W. S. Try, Ltd., High Street, Cowley, Uxbridge.

* * *

BRIGHTON CORPORATION. (1) 49 houses. (2) Hollingdean Estate. (3) T. J. Braybon and Son, Ltd., Brighton. (4) £84,230.

* * *

SALFORD CORPORATION. (1) 57 flats. (2) Lower Broughton. (3) Henry Boot and Sons, Ltd., Banner Cross Hall, Eccleshill Road South, Sheffield. (4) £81,351.

* * *

DORKING B.C. (1) 20 flats. (2) Chequers Yard. (3) S. G. and A. Agombar, 252a, Norwood Road, London, S.E.27. (4) £22,576.

* * *

SURBITON B.C. (1) 32 flats. (2) Lovelace Estate. (3) W. J. Simms, Sons and Cooke, Ltd., 78, Mount Street, London, W.1. (4) £42,430.

* * *

NORWICH CORPORATION. (1) Erection of junior school. (2) Wolfe Road. (3) R. G. Carter, Ltd., Drayton, Norwich.

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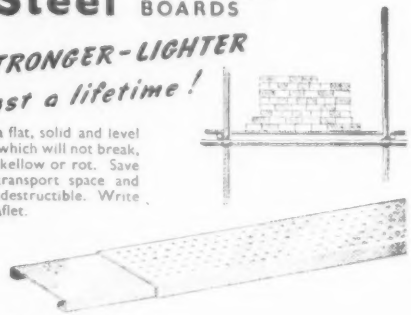

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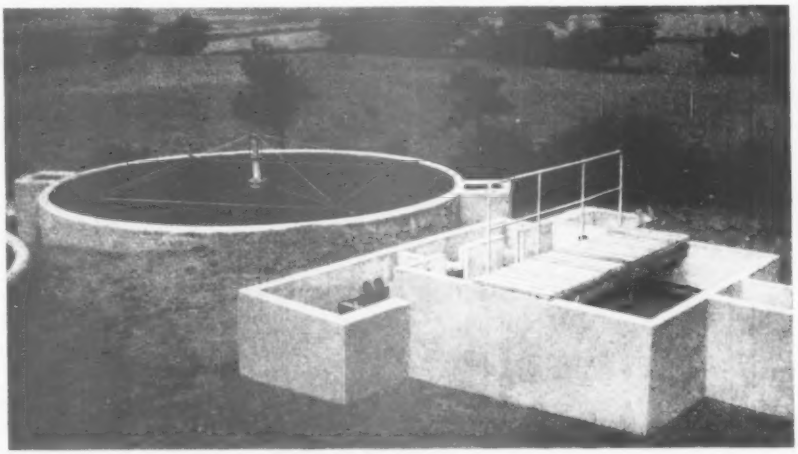

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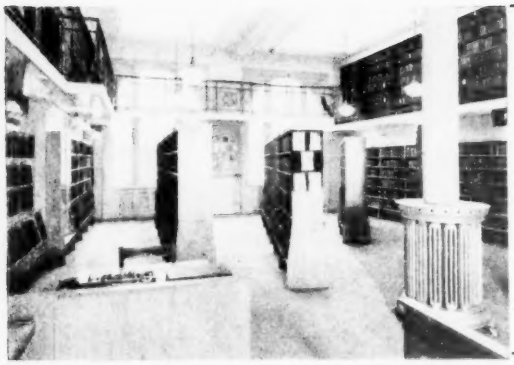

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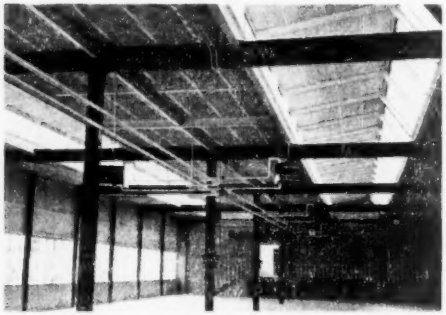

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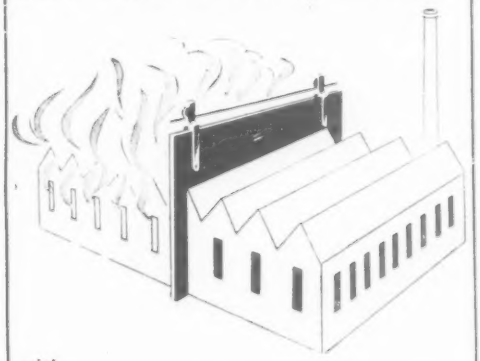

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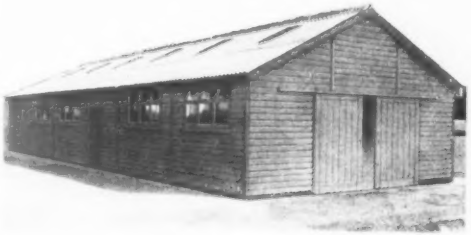

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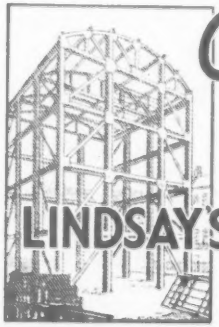

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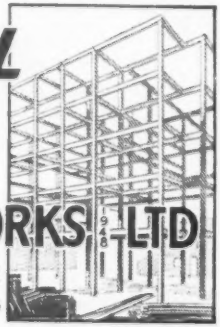

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APPOINTMENTS

DENBIGHSHIRE COUNTY COUNCIL

COUNTY ARCHITECT'S DEPARTMENT

THE above County Council invites applications for the under-mentioned appointments in the County Architect's Department, Wrexham, viz.:—

1 SENIOR ASSISTANT ARCHITECT A.P.T. Division, Grade VII. Salary £685-£760 per annum.

Preference will be given to Associates of R.I.B.A. Applicants must have had a thorough training in architectural design and construction of Modern School Buildings, and other works carried out by County Authorities.

2 SENIOR ASSISTANT ARCHITECTS— A.P.T. Division, Grade VI. Salary £645-£710 per annum.

Preference will be given to Associates of R.I.B.A. Applicants must have had a thorough training in architectural design and some experience in the construction of Modern School Buildings and other works carried out by County Authorities.

1 ASSISTANT ARCHITECT—A.P.T. Division Grade IV. Salary £530-£575 per annum.

Preferably Members of R.I.B.A. Must have had good experience in architectural design and in the preparation of working drawings and details.

1 JUNIOR ASSISTANT ARCHITECT A.P.T. Division, Grade II. Salary £470-£515 per annum.

Preference will be given to applicants who are nearing the completion of their studies for the Intermediate R.I.B.A. Examination. Applicants must be capable of preparing working drawings and details.

2 JUNIOR ASSISTANT ARCHITECTS. Provisional Grade (a). Salary £425-£470 per annum. (One at Wrexham Office, and one at Abergele Area Office.)

Preference will be given to applicants who are preparing for the Intermediate R.I.B.A. Examination. Applicants must be capable of the preparation of working drawings and details.

1 ASSISTANT QUANTITY SURVEYOR A.P.T. Division, Grade V. Salary £570-£620 per annum.

Candidates must have passed the Intermediate Examination of the Royal Institution of Chartered Surveyors (Quantities Section) and have experience in "taking off" for all types of building works undertaken by a County Authority.

In addition, he should be familiar with, and will be required to undertake "working up" in all stages, measurement of works on site, interim certificates and final accounts.

1 LANDS & BUILDINGS SURVEYOR A.P.T. Division, Grade V. Salary £570-£620 per annum.

Preference will be given to Members of the Royal Institution of Chartered Surveyors, Sub-Division III (Building).

Applicants must be fully capable of producing accurate surveys of building sites, and sites in respect of water and sewage schemes, preparation of survey plans, site layouts and reports and estimating cost of site works, measuring up and surveying existing buildings and preparation of reports.

The appointments are subject to (a) the National Conditions of Service for Local Government Administrative, etc., Officers, (b) the Local Government Superannuation Act, 1937, (c) the passing of a medical examination, and (d) one calendar month's written notice on either side to expire at the end of a calendar month.

Applications, giving age, qualifications and particulars of present and previous appointments and accompanied by copies of three recent testimonials, to be sent to the undersigned, by not later than the 15th day of February, 1952.

W. E. BUFTON,
Clerk of the County Council.

County Offices,
RUTHIN.
January, 1952. [6134

APPOINTMENTS—contd.

STREET URBAN DISTRICT COUNCIL

ENGINEER AND SURVEYOR'S DEPARTMENT

ARCHITECTURAL ASSISTANT

APPLICATIONS are invited for the appointment of ARCHITECTURAL ASSISTANT in the Office of the Engineer and Surveyor to the Council.

The salary for the appointment will be fixed by the Council according to the qualifications and experience of the applicant within the salary range A.P.T. Grade VI (£645-£710) or Grade VII (£685-£760).

Candidates should be Registered Architects and preference will be given to candidates who have had experience in the design, preparation of specifications and quantities, and complete supervision of the erection of Council Houses and execution of site works.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, and will be subject to one month's notice in writing on either side.

The Council will consider the possibility of the provision of housing accommodation for the successful applicant, if married.

Applications, stating age, qualifications and full particulars of experience, together with copies of three recent testimonials, must reach the undersigned not later than the 18th February, 1952.

H. W. HENSON,
Clerk of the Council.

Council Office, Street.
22nd January, 1952. [6129

BOROUGH OF WILLESDEN

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

APPOINTMENT OF ARCHITECTURAL STAFF

APPLICATIONS are invited for the following appointments on the Permanent Establishment of the Borough Engineer and Surveyor's Department:—

1. ARCHITECTURAL ASSISTANT, Grade A.P.T. VII/VIII (£715-£840).
2. ARCHITECTURAL ASSISTANT, Grade A.P.T. Va (£630-£690).

The salary scales quoted are inclusive of London Weighting and the commencing salary will be in accordance with the successful candidates' qualifications and experience.

Candidates for both appointments must be Associates of the Royal Institute of British Architects or hold an equivalent qualification.

Preference will be given to those having a general knowledge and experience of architectural work in the service of a local authority.

The foregoing appointments will be terminable by one month's notice on either side, are subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination.

It will be necessary for the successful candidate to provide his own housing accommodation as the Council is not in a position to assist.

Applications, stating age, qualifications, experience, etc., accompanied by copies of not more than three testimonials should be addressed to the undersigned, endorsed "Architectural Appointment," not later than 10 a.m. on Monday, 18th February, '52.

Canvassing, either directly or indirectly, will be deemed a disqualification.

(signed) R. S. FORSTER,
Town Clerk.

Town Hall,
Dyne Road,
Kilburn, N.W.6.
23rd January, 1952. [6137

APPOINTMENTS—contd.

URBAN DISTRICT COUNCIL OF CORBY

ARCHITECTURAL ASSISTANT

APPLICATIONS are invited for TWO APPOINTMENTS of ARCHITECTURAL ASSISTANT in the department of the Engineer and Surveyor at salaries in accordance with qualifications, training and experience and will be as follows:

Appointment (A).

Registered Architects with six or more years' experience in an Architect's Office or at a School of Architecture—Grade VI A.P.T. (£645-£710).

Appointment (B).

Architectural Assistants of not less than two years' experience in an Architect's Office (exclusive of pupilage or attendance at a School of Architecture—Grade IV A.P.T. (£530-£575), Grade V A.P.T. (£570-£620), or Grade Va A.P.T. (£600-£660) according to qualifications and practical experience.

Candidates must have experience of the design of buildings, preparation of working drawings, building details, estimating and, preferably, of local authority housing.

Housing accommodation will be made available to the selected candidate (if married) after a period of 3 months' satisfactory service.

The provisions of the Local Government Superannuation Act, 1937, will apply to each appointment.

Forms of application can be obtained from the undersigned and requests therefore should indicate the position for which application is being made. Completed forms must be received not later than 12 noon on Thursday, the 21st February, 1952.

G. B. BLACKALL,
Clerk of the Council.

Council Offices,
Corby, Northants.
29th January, 1952. [6150

BOROUGH OF WORTHING

APPOINTMENT OF ARCHITECTURAL ASSISTANT.

APPLICATIONS are invited for the appointment on the permanent establishment of the Borough Engineer and Surveyor's Department of an ARCHITECTURAL ASSISTANT on Grade A.P.T. V, commencing salary £570 per annum, rising subject to satisfactory service by three annual increments (£15 + £15 + £20) to £620 per annum.

Candidates should preferably be Associates of the Royal Institute of British Architects and possess a sound knowledge of the design, construction and specification of types of building work carried out by a Local Authority, with special experience in School design and construction.

The appointment, which is terminable by one month's notice in writing on either side, will be subject to the National Scheme of Conditions of Service for Local Government Officers, to the Local Government Superannuation Act, 1937, and to the successful candidate passing satisfactorily a medical examination.

Applications endorsed "ARCHITECTURAL ASSISTANT, GRADE V," stating age, qualifications, present and previous appointments and experience with dates, accompanied by copies of two recent testimonials, should be sent to the Borough Engineer and Surveyor, Town Hall, Worthing, not later than 22nd February, 1952.

ERNEST G. TOWNSEND,
Town Clerk.

Town Hall,
Worthing.
30th January, 1952. [6162

CONTRACTS

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THE Knottingley Urban District Council invite tenders for the erection of a REINFORCED CONCRETE BANDSTAND.

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Dated this 25th day of January, 1952.

STUART D. HILL,
Clerk of the Council.

Town Hall,
KNOTTINGLEY [6147

EXAMINATIONS

I.A.A.S. FORTHCOMING EXAMINATIONS.

THE Incorporated Association of Architects and Surveyors will hold examinations at Intermediate and Final grades in following sections during the week beginning 19th May, 1952:

ARCHITECTURE.
QUANTITY SURVEYORS.
BUILDING SURVEYORS—MUNICIPAL.
BUILDING SURVEYORS—NON-MUNICIPAL.
LAND SURVEYORS.
FIRE SURVEYORS.

The Examinations will be held in London, and at certain provincial centres. Applications from candidates for permission to sit, made on the prescribed form, must be received not later than Monday, 25th February, 1952.

Full information on application to the Examinations Secretary, I.A.A.S., 75, Eaton Place, S.W.1. [6106

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ARCHITECTURAL assistant up to or Inter. R.I.B.A. standard required for architects with general and country practice, including local authority housing.—Write, stating age, training, experience and salary required, to G. Forsyth Lawson & Douglas Hilton, L.A.R.I.B.A., 40, Horse Fair, Banbury, Oxon. [6161

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QUANTITY surveyor required by firm of structural engineers in Black Country, for the preparation and finalising of accounts; salary £700 upwards according to experience.—Reply with full details to Box 6684. [6151

ASSISTANT quantity surveyor required with experience in taking off, site measuring, interim valuations and preparation of final accounts; five-day working week with pension scheme and staff canteen in operation.—Applications in writing giving age, training and experience to Chief Staff Architect, Ilford Limited, Romford, Essex. [6146

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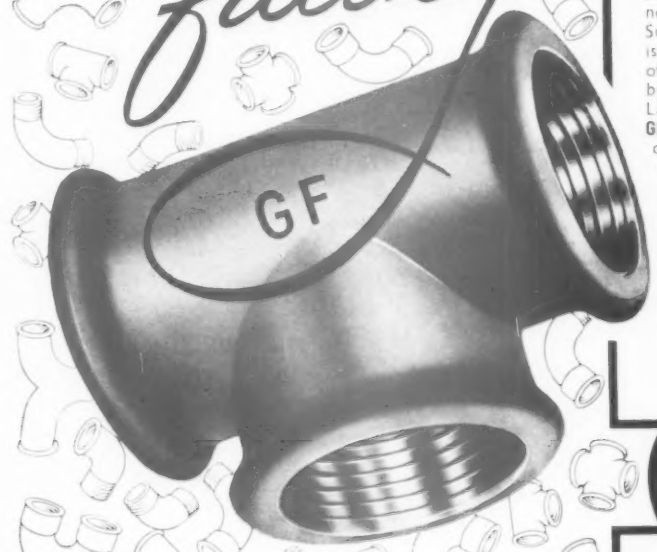

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